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ABSTRACT

Over 20.7 million jobs, or 19 percent of total U.S. employment, were classified as farm and farm related in 1987, but many were only peripherally related to agriculture. Almost 71 percent of these jobs were in metropolitan areas. Gains in total agricultural employment were limited to farm-related industries, whereas farm production jobs continued to decline. The number of farm proprietors diminished in reaction to labor-saving technological advancements and periods of unfavorable economic conditions in agriculture. Gains in agricultural service jobs and farm wage and salary positions limited the sector's employment loss in some regions. Job gains were generally in specific industries within the sector and were limited to metropolitan areas during 1986-87. Non-metropolitan areas lost processing and marketing jobs more slowly than metropolitan areas during downturns in the sector and gained jobs more quickly during periods of expansion. However, more processing industries lost than gained jobs since 1975. Wholesale and retail trade industries, peripherally related to farming, benefited from growth in population and increased consumer purchasing power. Indirect agribusinesses gained almost 400,000 jobs between 1975 and 1987. Many of these jobs were in metropolitan areas, far removed from the farm. (Four tables and 12 figures are provided. Appendixes include a technical glossary and 22 tables on regional employment.) (YLB)

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Employment Trends in Farm and Farm-Related Industries, 1975-87

T. Alexander Majchrowicz

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Employment Trends in Farm and Farm-Related Industries, 1975-87.
By T. Alexander Majchrowicz. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. Staff Report No. 9121.

Abstract

Employment changes in farm and farm-related industries reveal the restructuring of agriculture's linkages to the U.S. economy. Agricultural production jobs have declined in reaction to labor-saving technological advancements and periods of unfavorable economic conditions. Some farm-related industries have also declined or remained stable, but other industries that process, market, and sell agricultural products have experienced employment growth. These employment changes vary by direction and intensity between metro and nonmetro areas and among farm production regions.

Keywords: Farming and agricultural services, agricultural input industries, agricultural processing and marketing industries, wholesale and retail trade, employment, farm production regions

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U.S. farm production regions

Many Industries Are Linked to U.S. Agriculture

Over 20.7 million jobs were classified as farm and farm-related in 1987, but many are only peripherally related to agriculture. Almost 71 percent of these jobs are in metropolitan areas.

Farm and farm-related industries are a diverse group of industries linked directly or indirectly to U.S. agriculture. In this report, farm and farm-related industries are identified as those industries having 50 percent or more of their national workforce employed in providing goods and services necessary to satisfy the domestic final demand for agricultural products. These industries are classified by location in metropolitan (metro) or nonmetropolitan (nonmetro) counties as defined by the Office of Management and Budget's (OMB) Metropolitan Statistical Area designation in 1984. The industries are then aggregated into related groups ranging from direct farming and associated agricultural services to wholesale and retail trade of agricultural products. Other groups include agricultural input industries, agricultural processing and marketing industries, and indirect agribusinesses (see Technical Glossary for industries within these groups). While all industries meet our selection criteria, some businesses are only peripherally related to agriculture.

Approximately 20.7 million jobs, or 19 percent of total U.S. employment, were in farm and farm-related industries in 1987 (app. table 1). Wholesale and retail trade of agricultural products, with 11.1 million jobs nationally, accounted for the largest share of total farm and farm-related employment (fig. 1). The percentage of total farm-related jobs in wholesale and retail trade has steadily increased since 1975, while jobs in all other farm-related industries have declined. Farming and agricultural services accounted for 18 percent of all farm and farm-related jobs in 1987, down from almost 25 percent in 1975.

Regionally, farm and farm-related industries provided from a high of 26.2 percent of all jobs in the Northern Plains to a low of 16.3 percent in the Northeast. While accounting for a fairly large percentage of regional employment, not all jobs are closely related to farm production or located in rural areas. Almost two-and-a-half times more farm and farm-related jobs in the United States were located in metro than nonmetro areas, mainly due to the large number of farm-related trade jobs in populated, metro areas (fig. 2). Growth and decline in farm-related industries have not significantly changed the overall metro/nonmetro distribution of jobs from 1975 to 1987 (fig. 3).

These findings are based on Bureau of the Census, U.S. Department of Commerce (USDC), data released in an enhanced County Business Patterns (CBP) file for 1987, the latest year for which detailed information on wage and salary employment is available. The CBP data provide estimates of employment, as well as the number of establishments, for most industries in the United States. Information about self-employed persons, including farmers, and wage and salary employment in agricultural production is excluded

from the CBP data. Employment estimates for farm proprietors and salaried farmworkers were obtained from the Bureau of Economic Analysis, USDC. Industrial data in this report are presented for three time periods; 1975-82, which spans a period of early growth and the subsequent recessions of the early 1980's; 1982-86, the beginning of a prolonged economic recovery; and 1986-87, the latest year for which change can be indicated. The data are aggregated by the United States and 10 farm production regions (see map, p. v).

Figure 1

Components of farm-related employment

Wholesale and retail trade accounts for the largest share of jobs.

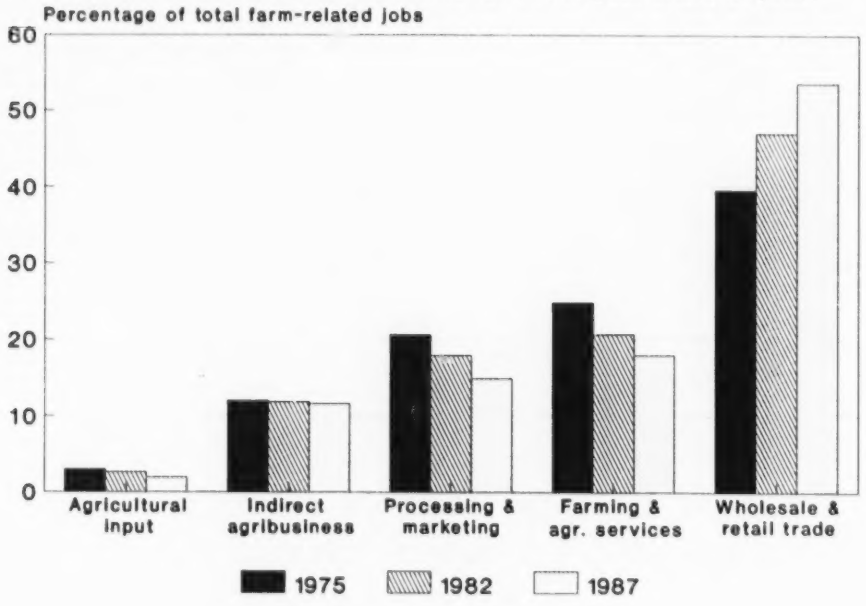


Figure 2

Location of farm and farm-related employment

Except for farming and agricultural services, more farm-related jobs are in metro areas.

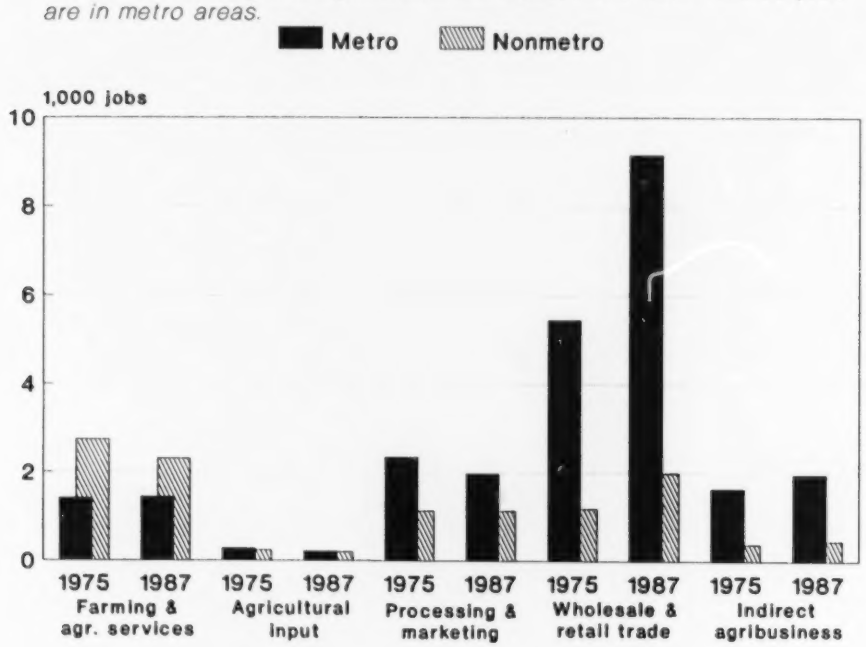
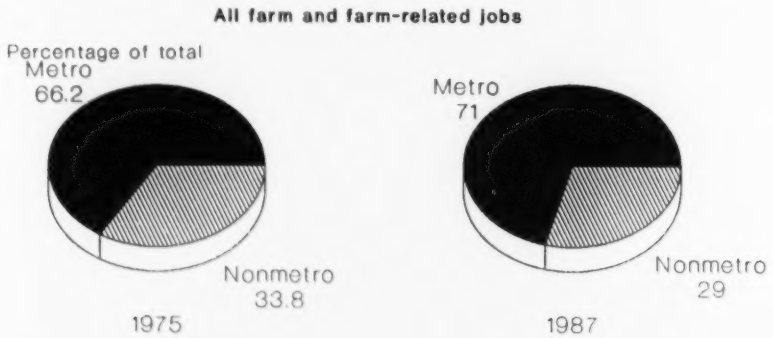


Figure 3

Distribution of jobs between metro and nonmetro areas

Despite growth and decline of different industries, the distribution is little changed.



Farm and Farm-Related Employment Growth Accelerated During 1986-87

Gains in total agricultural employment were limited to farm-related industries, while farm production jobs continued to decline.

Farm and farm-related employment grew during 1986-87 at a rate three times faster than the average annual rate of growth for 1982-86, the beginning of an expansion in the U.S. economy (app. table 2). Much of the improvement in employment was due to gains in farm-related industries, such as wholesale and retail trade of agricultural products, indirect agribusiness, and food processing and marketing (fig. 4). Jobs in the farming and agricultural service sector continued to decrease, following the long-term decline in onfarm employment.

All farm production regions of the United States experienced accelerated growth in farm and farm-related employment during 1986-87 (table 1). Such employment grew the fastest in the Pacific and Southeast, regions with strong population growth and where agricultural production jobs contribute less to the area's total employment than nationally. The improved growth in these regions was mainly due to additional jobs in wholesale and retail trade and processing and marketing industries (fig. 5). Growth rates in 1986-87 exceeded increases during 1975-82 in all regions except the Delta, Mountain, and Southern Plains States, whose economies grew rapidly during the energy-induced boom of the late 1970's.

Table 1--Growth in farm and farm-related employment during 1986-87 was faster in all regions than during 1982-86

Region	1975-82	1982-86	1986-87
	Compound average annual percentage change		
Appalachia	1.4	1.3	3.7
Corn Belt	.6	.5	2.5
Delta	1.6	-.2	.6
Lake	1.4	1.4	3.7
Mountain	3.9	2.1	2.9
Northeast	1.3	1.3	3.5
Northern Plains	.8	-.7	1.8
Pacific	3.3	2.1	6.4
Southeast	2.7	2.2	5.1
Southern Plains	3.9	.2	1.5

Figure 4

Change in farm-related employment

More industries lost jobs than gained them during 1982-87.

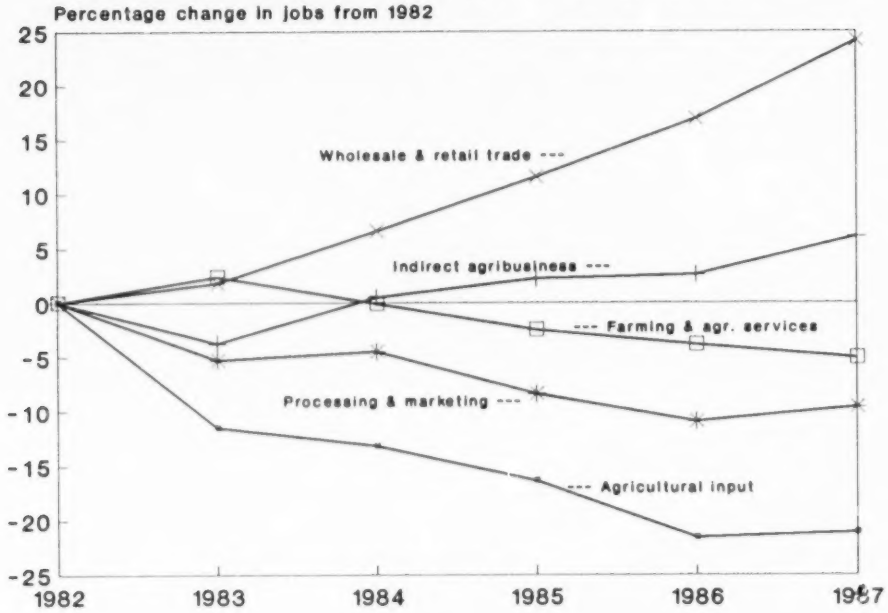
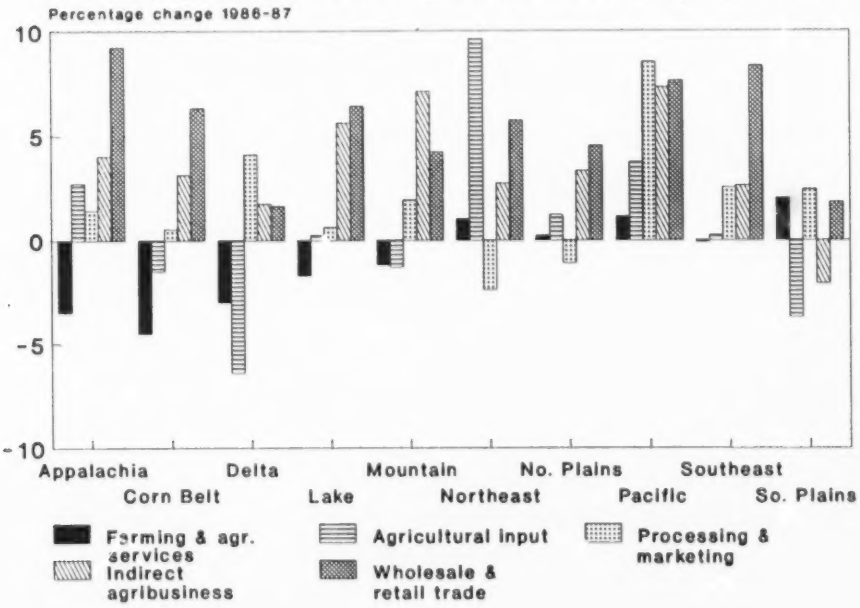


Figure 5

Employment change among industries

Most employment gains are in industries furthest away from the farm.



Farming and Agricultural Services Sector Loses Jobs

The number of farm proprietors has diminished in reaction to labor-saving technological advancements and periods of unfavorable economic conditions in agriculture. Gains in agricultural service jobs and farm wage and salary positions have limited the sector's employment loss in some regions.

Farming and related agricultural service industries as a group lost employment during 1975-87, declining nationally at a faster average annual rate during 1986-87 than in previous periods (table 2). The decline in farm jobs is principally tied to increased mechanization and more efficient farm production methods that have allowed fewer farmers to produce more goods. Periods of relatively unfavorable economic conditions in farming also contributed to the loss of jobs.

During 1975-82 and 1982-86, the Delta States lost employment in the farm and agricultural services sector at the fastest rate among regions; however, the nonmetro areas of the Southeast lost employment at a faster rate (table 2). The Corn Belt, which had fairly moderate rates of farm employment loss during the earlier periods, had the steepest decline from 1986 to 1987. The Corn Belt's 4.5-percentage-point drop in farm jobs was exceptionally high, exceeding the rate of decline in all regions during any time period. Many of the jobs lost in the Corn Belt were directly related to farming--the number of farm proprietors fell by 4.6 percent and the number of wage and salary farmworkers fell by 9.4 percent from 1986 levels.

Some regions had small employment gains in the farming and agricultural services sector during various time periods (table 2). These gains were restricted to agricultural service and farm wage and salary jobs, especially within metro areas where demand has grown for services such as lawn and horticultural care. For example, total farming and agricultural services employment grew in the Northeast, Northern Plains, and Pacific regions during 1986-87, sustained by a 1.8-percent growth rate in metro areas of each region. Employment in metro agricultural services in these three regions grew between 7 and 13 percent, and farm wage and salary jobs also increased, but farm proprietors in the regions' metro areas fell between 2 and 3.5 percent (fig. 6). Similar growth patterns occurred in nonmetro areas.

Most jobs in the farm and agricultural services sector are in farm production. Nationally in 1987, farm proprietors accounted for 2.3 million of the sector's jobs, while 1 million more were onfarm wage and salary positions. Only 435,000 jobs were in agricultural service industries. These industries provide soil preparation, crop, veterinary, farm management, and landscape and horticultural services, and include establishments in forestry and fisheries.

Table 2--Change in farming and agricultural services employment

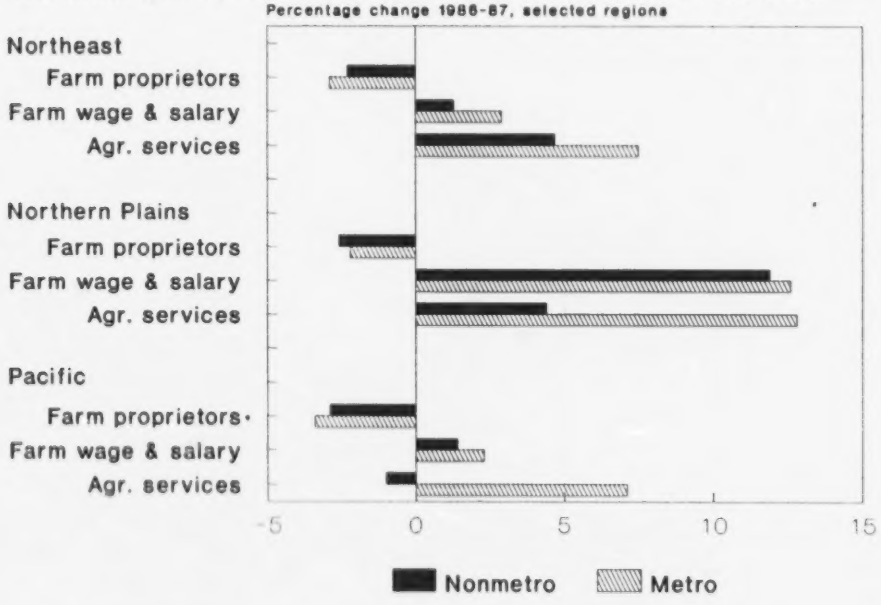
Region	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
United States	-0.7	-1.0	-1.2	0.2	0.1	0.1	-1.3	-1.7	-2.1
Appalachia	-1.0	-1.1	-3.5	.2	-.2	-2.6	-1.6	-1.5	-4.0
Corn Belt	-1.1	-.4	-4.5	-.5	.6	-3.3	-1.4	-.8	-5.2
Delta	-1.5	-3.3	-3.0	.1	-2.6	-3.6	-1.8	-3.4	-2.9
Lake	-.8	-1.2	-1.7	-.2	-.6	-1.0	-1.0	-1.5	-2.0
Mountain	.4	.4	-1.2	2.3	2.0	.9	-.2	-.2	-1.9
Northeast	.5	.3	1.0	.6	1.0	1.8	.1	-.8	-.6
Northern Plains	-1.0	-2.2	.2	1.0	-1.3	1.8	-1.2	-2.3	--
Pacific	-.7	.2	1.1	-.6	.3	1.8	-1.0	-.2	-.8
Southeast	-1.0	-2.1	--	1.0	-.3	.8	-2.4	-3.9	-.8
Southern Plains	-.1	-2.0	2.0	1.8	-.9	1.3	-.9	-2.5	2.3

-- = None or negligible.

Figure 6

Farming and agricultural service sector employment

The sector gains jobs in some regions but farm proprietors decrease.



Recent Employment Increases in the Agricultural Input Sector Are Not Widespread

Job gains were generally in specific industries within the sector and were limited to metro areas during 1986-87.

Employment growth in agricultural input industries improved in 1986-87 after falling rapidly during 1982-86 (table 3). All regions lost agricultural input employment during 1982-86, declining at rates from 3.1 percent in the Northeast to almost 8 percent in the Corn Belt. Most regions, however, had job gains or lower rates of decrease during 1986-87. The strongest improvement occurred in metro areas of the Northeast and Appalachia. In these regions, establishments engaged in the wholesale distribution of farm and garden machinery and farm supplies (fertilizers, pesticides, and seeds) contributed most to the employment gains. These establishments account for nearly three-fourths of the agricultural input employment in Appalachia and the Northeast (app. tables 3 and 13).

Although employment in agricultural input industries recently grew in some regions, most nonmetro areas have had employment losses in the sector since 1982 (table 3). Of the industries that make up the agricultural input sector (chemical and fertilizer mining, agricultural chemical manufacturing, farm machinery and equipment manufacturing, wholesale trade of farm machinery, and agricultural credit institutions), only farm machinery manufacturing had employment growth in nonmetro areas during 1986-87 (app. table 2). This increase signaled a rebound from dramatic losses in farm machinery employment, which nationally had declined by about 65,000 jobs (46 percent) from 1979 to 1986 (2). Spurring the employment growth were improving farm economic conditions as farm income rose, the debt-to-asset ratio fell, and capital expenditures increased from 1986 to 1987 (1).

Chemical and fertilizer mining and agricultural chemicals manufacturing suffered high rates of employment loss after 1975-82 (fig. 7 and app. table 2). The decline in employment is associated with several trends that reduced demand for agricultural fertilizers. First, exports fell as the U.S. share of world markets for phosphatic and nitrogenous fertilizers declined. Second, domestic consumption of fertilizers declined in response to lower grain exports. Third, technological improvements helped make fertilizer plants more efficient, reducing labor required to produce needed supplies.

Agricultural input industries have a direct economic link to the farm sector. Therefore, the future direction of the input sector is dependent upon movements in the U.S. farm economy. Industries like fertilizer production are also affected by competition from foreign producers who rely on low-priced raw materials, creating demand and cost pressures for domestic companies.

Table 3--Change in agricultural input employment

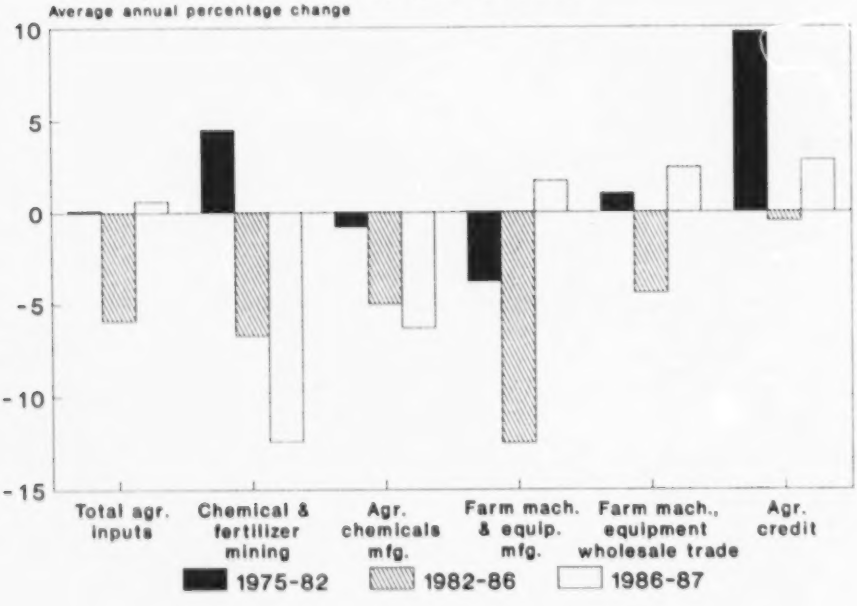
Region	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
United States	0.1	-5.9	0.6	-0.2	-5.8	2.3	0.4	-6.0	-1.2
Appalachia	-2.5	-6.4	2.7	-5.1	-8.5	10.6	-.1	-5.0	-2.3
Corn Belt	-.9	-7.9	-1.5	-.8	-8.0	-2.2	-1.0	-7.8	-0.6
Delta	--	-5.3	-6.4	1.3	-7.0	-8.8	-.6	-4.4	-5.1
Lake	8	-6.5	.2	-.5	-7.4	-1.3	2.2	-5.6	1.6
Mountain	2.1	-5.8	-1.3	2.2	-6.1	1.4	2.0	-5.8	-2.3
Northeast	.3	-3.1	9.6	.2	-3.1	11.9	.8	-3.0	2.6
Northern Plains	.2	-6.6	1.2	.4	-6.7	2.8	.2	-6.6	.8
Pacific	2.5	-3.8	3.7	2.4	-3.1	5.1	2.8	-6.2	-1.9
Southeast	.2	-4.9	.2	.1	-5.3	-.1	.4	4.4	.7
Southern Plains	1.2	-5.0	-3.7	-.1	-4.0	1.4	2.6	-6.3	-7.8

-- = None or negligible.

Figure 7

Employment in agricultural input industries

Recent growth is limited to specific industries



Agricultural Processing and Marketing Sector Performs Better in Nonmetro than Metro Areas Since 1975

Nonmetro areas lost processing and marketing jobs more slowly than metro areas during downturns in the sector and gained jobs more quickly during periods of expansion. However, more processing industries lost than gained jobs since 1975.

Agricultural processing and marketing industries lost employment during 1975-82 and 1982-86, with metro areas faring worse than nonmetro areas (fig. 8). The performance of metro areas deteriorated in the latter period, during which processing and marketing jobs declined in all regions. Nationally for the sector during 1982-86, metro jobs fell at a rate that was twice as fast as the nonmetro rate. The job picture in the processing and marketing industries improved during 1986-87, but nonmetro areas continued to outperform metro areas.

More industries within the sector lost than gained employment over time. Only manufacturers of meat products and canned, frozen, and preserved fruits and vegetables had job growth in each period (fig. 9). These basic food processing industries benefited from increasing population and rising demand for prepared foods from time-strapped, dual-income families. Five industries (manufacturers of bakery products, fats and oils, beverages, tobacco, and leather products) consistently lost jobs, however. Declining domestic consumption of tobacco and alcoholic beverages, because of growing health concerns, affected employment growth in the industries producing these goods. The bakery and leather industries lost employment in their attempts to increase efficiency through consolidation. During 1982-87 for example, the number of plants producing bread, cake, and similar products declined by 37, while companies selling these goods fell from 1,869 to 635, mainly due to mergers and acquisitions (3).

The Northeast lost agricultural processing and marketing employment at the fastest rate among regions during all periods, reflecting the general loss of farm-related industries in the urbanized region (app. table 14). In contrast, the Pacific States had the strongest employment growth during 1975-82 and 1986-87, particularly in its metro areas. Most of the recent employment growth in the metro Pacific occurred in dairy products manufacturing and in apparel and textiles manufacturing, the region's largest provider of farm-related jobs (app. table 18). Employment growth in apparel and textile manufacturing reflected national improvement in the industry during 1986-87 (fig. 9). Increased investment in automation, which initially reduced employment, improved industry efficiency. This efficiency, along with a lower U.S. dollar value against foreign currencies that made domestic goods more competitive with imports, helped the textile industry recover.

Figure 8

Agricultural processing and marketing employment

Processing and marketing industries do better in nonmetro areas.

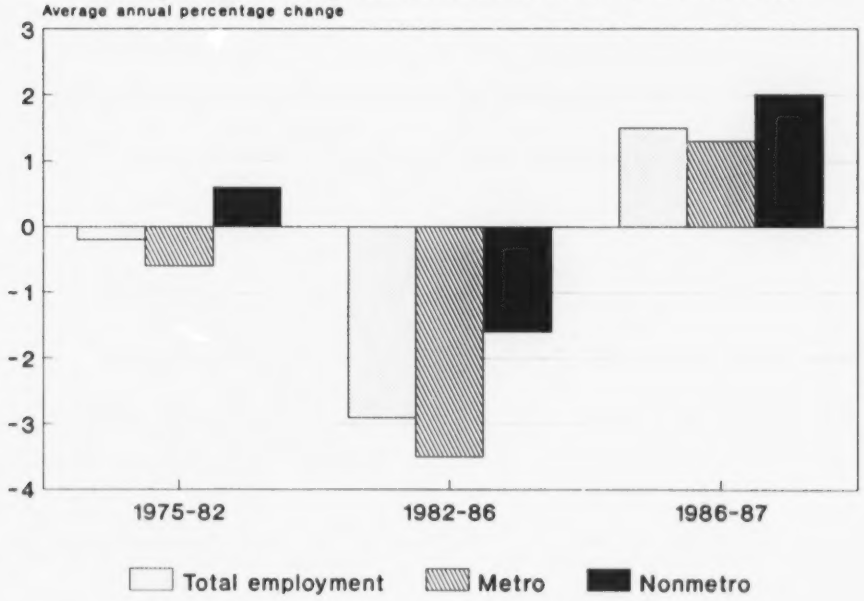
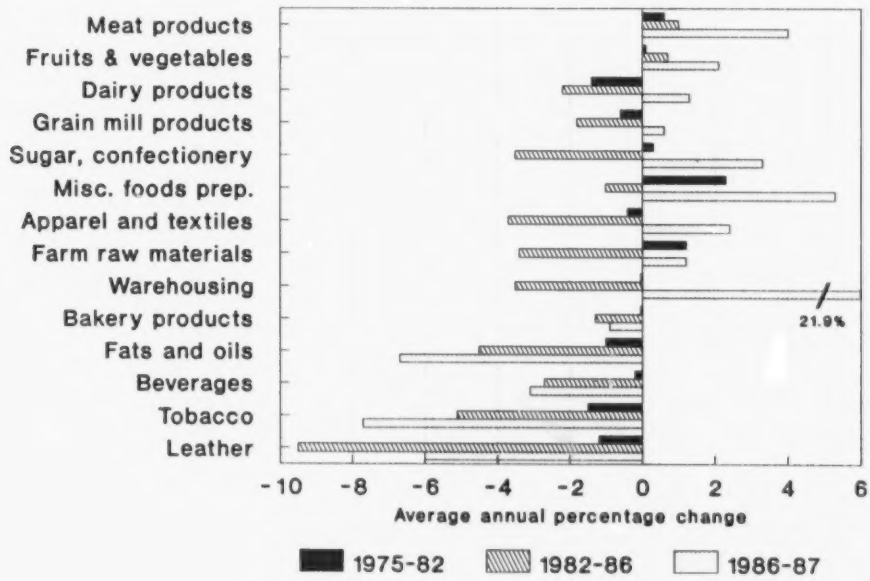


Figure 9

Employment change in agricultural processing and marketing industries

Only two industries consistently gained jobs.



Strongest Job Growth Among Farm-Related Industries Occurred in Wholesale and Retail Trade of Agricultural Products

Wholesale and retail trade industries, peripherally related to farming, benefited from growth in population and increased consumer purchasing power.

Employment in farm-related wholesale and retail trade industries increased the most in regions with strong population growth. The Southeast, Appalachia, Mountain, Southern Plains, and Pacific regions had the largest percentage increases in wholesale and retail trade jobs during 1975-87 (fig. 10). These five regions also gained population most rapidly during the period. Increased disposable income and greater participation of women in the workforce, which shifted some food preparation to retail outlets, contributed to the strong employment growth in the sector.

Nonmetro areas had faster national average rates of wholesale and retail employment growth than metro areas during 1975-82 and 1986-87 (table 4). During 1986-87, nonmetro areas outperformed metro areas in all regions, except the Northern Plains. The slowest employment growth during 1986-87 in both metro and nonmetro areas occurred in the Delta States and Southern Plains, energy-producing regions still suffering from price declines for oil and gas that began in the early 1980's.

The wholesale and retail trade sector contains over half of all jobs classified as farm and farm-related (app. table 1). The sector accounts for the largest share of total farm and farm-related employment in all regions except the Northern Plains, where the farm production and agricultural services sector has more jobs (app. table 15).

Although wholesale and retail jobs account for a large percentage of farm and farm-related employment, many of the sector's industries are peripherally related to farming. Industries classified in the sector are involved in the trade of goods that have farm-produced components (that is, materials of plant or animal origin). They include establishments selling groceries, beer and wine, tobacco, candy, clothing, and shoes, as well as eating and drinking places that serve prepared items. Some of the products, however, have indirect or very limited linkages to agriculture. Therefore, jobs involved in the sale of these goods may overstate employment included as trade of farm products. Employment in the sector may be further overstated by the inclusion of all jobs in industries classified as agriculturally related. Eating and drinking places for instance include not only those jobs involved in the preparation of food but employment of custodians and entertainers as well.

Figure 10

Employment growth in wholesale and retail trade

Trade jobs increase the most in regions with largest population growth.

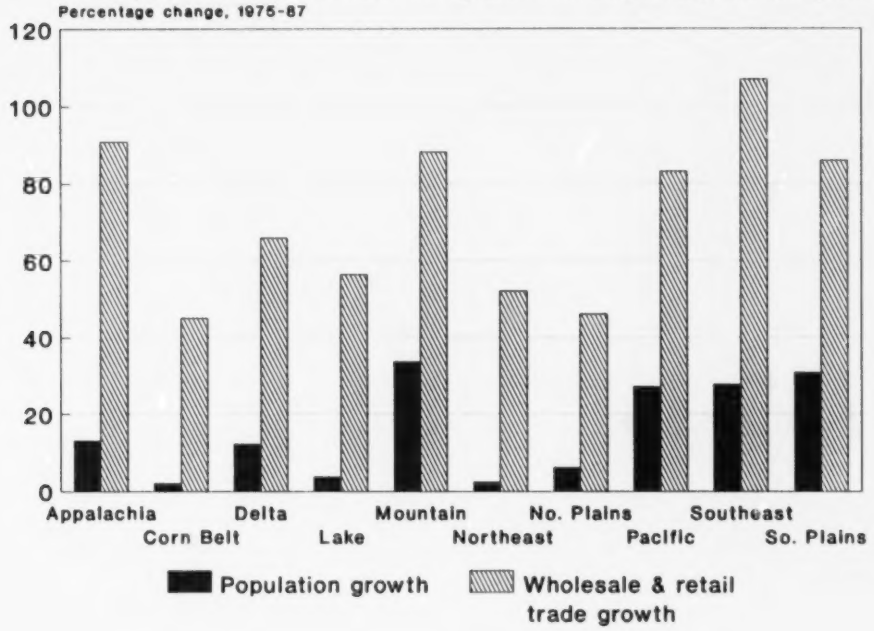


Table 4--Change in agricultural wholesale and retail trade employment

Region	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
United States	4.4	4.0	6.2	4.3	4.3	5.9	5.0	2.6	7.6
Appalachia	5.1	5.4	9.2	4.9	5.8	9.2	5.4	4.5	9.2
Corn Belt	2.9	2.8	6.3	2.8	3.3	5.9	3.1	1.1	8.0
Delta	5.5	2.9	1.6	5.8	3.2	1.2	5.0	2.5	2.2
Lake	3.5	3.7	6.4	3.3	4.1	6.0	4.2	2.3	7.8
Mountain	6.6	3.6	4.2	6.7	4.9	2.9	6.6	.9	7.0
Northeast	3.0	4.0	5.7	2.8	4.0	5.2	4.6	4.1	10.5
Northern Plains	3.9	1.8	4.5	4.3	3.6	5.3	3.5	-.2	3.7
Pacific	5.5	4.1	7.6	5.4	4.2	7.6	6.1	2.1	8.4
Southeast	5.9	6.3	8.3	5.9	6.3	8.1	6.2	6.2	8.9
Southern Plains	7.2	2.9	1.8	7.4	3.6	1.5	6.4	-.5	3.7

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Indirect Agribusiness Added to Overall Job Growth in Farm-Related Industries During 1975-87

Indirect agribusinesses gained almost 400,000 jobs between 1975 and 1987. Many of these jobs are in metro areas, far removed from the farm.

Indirect agribusinesses accounted for about 2.4 million jobs in 1987, less than 12 percent of total agricultural-related employment (app. table 1). Over 81 percent of indirect agribusiness jobs were located in metro areas (fig. 11), a share that has remained stable since 1975. While these industries meet the criterion of having 50 percent or more of their workforce employed in providing goods and services necessary to satisfy the domestic final demand for agricultural products, the linkage between many of the indirect agribusinesses and agriculture is minor. Some of the businesses included in the category are engaged in manufacturing prefabricated and portable metal buildings, pumps and pumping equipment for general industrial use, wood containers, paper bags and wood pulp products, and food products machinery. Additional indirect agribusinesses are repair and service shops for tractors, farm machinery, and engines.

For the Nation, indirect agribusiness employment consistently increased during 1975-87 (app. table 2), with recent growth somewhat faster in metro than nonmetro areas (fig. 12). The Mountain States had the fastest employment growth in all periods (app. table 12). The only region suffering large losses in agribusiness jobs was the Southern Plains (app. table 22), where employment fell during 1982-86 and 1986-87, with the nonmetro areas of the region experiencing especially high rates of decline. These losses were in direct contrast to job gains during 1975-82, when agribusiness employment in the Southern Plains increased at a faster rate than in any other region. This pattern of employment change mirrors the boom and bust cycle of the U.S. energy industry, an important sector of the Southern Plains economy that doubtlessly affected farming and, subsequently, indirect agribusinesses.

Figure 11

Location of indirect agribusiness jobs, 1987

Most jobs are in metro areas.

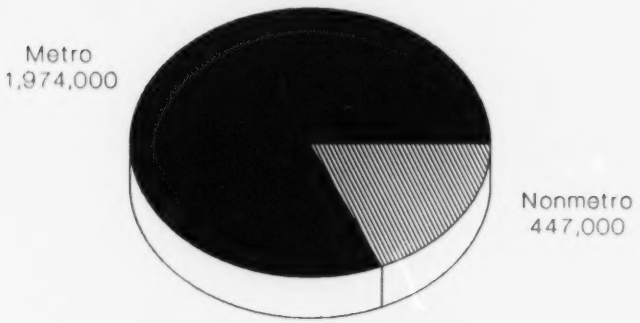
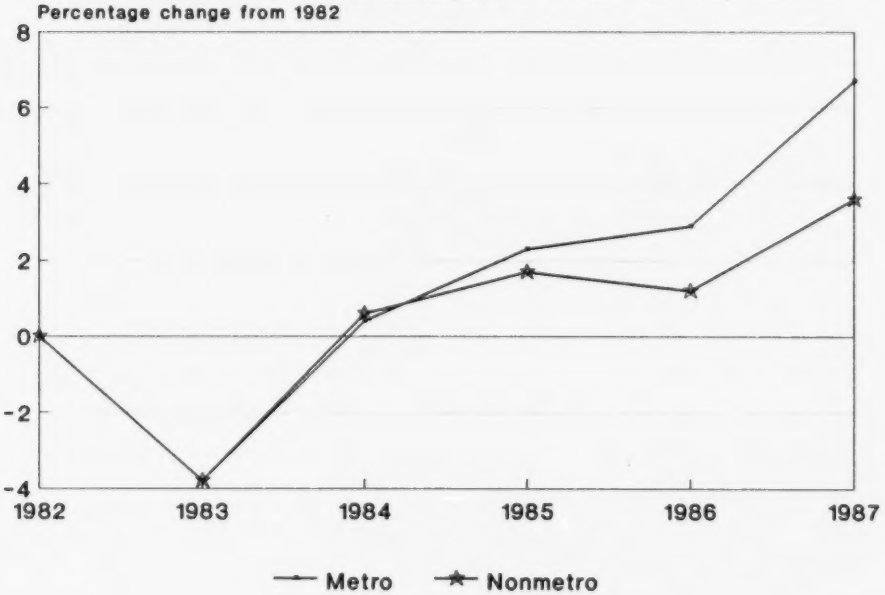


Figure 12

Employment growth in indirect agribusinesses

Metro areas recently gained these jobs faster than nonmetro areas.



References

(1) U.S. Department of Agriculture, Economic Research Service. Agricultural Resources: Inputs Situation and Outlook Report. AR-17, Feb. 1990, p. 37.

(2) U.S. Department of Commerce. 1987 U.S. Industrial Outlook. Jan. 1987, p. 23-2.

(3) _____. 1990 U.S. Industrial Outlook. Jan. 1990, p. 34-19.

Technical Glossary

Farm and farm-related industries referred to in this report, and the Standard Industrial Codes (SIC) for the establishments within the industry groupings, are listed in this glossary.

	SIC
Farming and agricultural services:	
Farm production (farm proprietors and wage and salary farmworkers)	1/
Agricultural services, forestry, and fisheries	07-09
Agricultural input industries:	
Chemicals and fertilizer mining	147, 1492
Agricultural chemicals	287
Farm machinery and equipment	3523
Farm supply and machinery (wholesale trade)	5083, 5191
Farm credit agencies	613, 622
Agricultural processing and marketing:	
Meat products	201
Dairy products	202
Canned, frozen, and preserved fruits and vegetables	203
Grain mill products	204
Bakery products	205
Sugar and confectionery products	206
Fats and oils products	207
Beverages	208
Miscellaneous food preparations and kindred products	209
Tobacco products	21
Apparel and textiles	221, 223-5, 2261, 2269, 228, 2292, 2298-9, 231-8, 2397
Leather products	31

Farm product raw materials (wholesale trade)	515
Wholesale and retail trade of agricultural products:	
Wholesale trade	513-4, 518, 5194
Retail trade	54, 56, 58
Indirect agribusiness:	
Prefabricated metal buildings	3448
Pumps and pumping equipment	3561
Miscellaneous repair shops	7692, 7699
Miscellaneous textile products	2295, 2393, 2395
Containers, paper products, and pulpwood products	2441, 2449, 262, 263, 2641, 2643, 2645-6, 2651-5, 3221, 3262, 3274
Chemicals	2823-4, 2893
Primary and fabricated metal products	3315-7, 334, 3411, 3466, 3497
Food products machinery	3551
Miscellaneous manufacturing	3962-4, 3993
Printing and publishing	271-2, 274, 2751-2, 2754, 2791, 2793-5

1/ County Business Patterns data do not include information about the employment of farmers or wage and salary jobs in agricultural production (SIC 01-02). Therefore, these data were obtained from the Bureau of Economic Analysis, U.S. Department of Commerce.

Appendix table 1--United States: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	394,286	0.4	208,622	0.2	185,664	0.9
Chemical and fertilizer mining	16,413	--	7,700	--	8,713	--
Agricultural chemicals mfg.	41,510	--	25,777	--	15,733	0.1
Farm machinery and equipment mfg.	64,463	0.1	35,754	--	28,709	0.1
Farm machinery, equip., supplies (wholesale trade)	241,618	0.2	115,850	0.1	125,768	0.6
Agricultural credit institutions	30,282	--	23,541	--	6,741	--
Farming and agricultural services	3,739,549	3.4	1,435,312	1.6	2,289,170	11.3
Agricultural processing and marketing	3,079,844	2.8	1,961,216	2.2	1,118,517	5.5
Meat products mfg.	337,793	0.3	161,867	0.2	175,926	0.9
Dairy products mfg.	137,641	0.1	96,424	0.1	41,217	0.2
Canned, frozen, preserved fruits and vegetables mfg.	199,839	0.2	126,659	0.1	73,180	0.4
Grain mill products mfg.	101,322	0.1	66,367	0.1	34,955	0.2
Bakery products mfg.	204,941	0.2	183,235	0.2	21,706	0.1
Sugar and confectionery products mfg.	87,165	0.1	68,309	0.1	18,856	0.1
Fats and oil products mfg.	31,101	--	20,685	--	10,416	0.1
Beverage mfg.	167,212	0.2	142,907	0.2	24,305	0.1
Misc. foods preparation and kindred products mfg.	157,408	0.1	124,857	0.1	32,440	0.2
Tobacco mfg.	44,362	--	39,936	--	4,426	--
Apparel and textiles mfg.	1,333,776	1.2	786,005	0.9	547,771	2.7
Leather mfg.	130,843	0.1	82,686	0.1	48,157	0.2
Farm products raw material (wholesale trade)	117,920	0.1	40,494	--	77,426	0.4
Warehousing	28,521	--	20,785	--	7,736	--
Farm-related wholesale and retail trade	11,115,842	10.2	9,148,005	10.3	1,967,314	9.7
Indirect agribusiness	2,394,033	2.2	1,947,172	2.2	446,858	2.2
Total farm and farm-related employment	20,723,554	19.0	14,700,327	16.6	6,007,523	29.7
Nonagricultural employment	88,417,260	81.0	74,010,489	83.4	14,246,592	70.3
Total employment	109,140,814	100.0	88,710,816	100.0	20,254,115	100.0

-- = None or negligible.

Appendix table 2--United States: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	0.1	-5.9	0.6	-0.2	-5.8	2.3	0.4	-6.0	-1.2
Chemical and fertilizer mining	4.5	-6.7	-12.4	4.6	-4.2	-16.4	4.4	-9.3	-6.9
Agricultural chemicals mfg.	-0.8	-5.0	-6.3	-1.5	-6.6	-7.1	0.7	-2.2	-4.9
Farm machinery and equipment mfg.	-3.8	-12.5	1.7	-3.6	-13.9	-2.6	-4.0	-10.3	7.6
Farm machinery, equip., supplies (wholesale trade)	1.0	-4.4	2.4	0.5	-3.5	7.7	1.3	-5.1	-2.1
Agricultural credit institutions	9.7	-0.5	2.8	12.1	1.9	4.0	5.3	-6.7	-1.2
Farming and agricultural services	-0.7	-1.0	-1.2	0.2	0.1	0.1	-1.3	-1.7	-2.1
Agricultural processing and marketing	-0.2	-2.9	1.5	-0.6	-3.5	1.3	0.6	-1.6	2.0
Meat products mfg.	0.6	1.0	4.0	-1.5	-1.0	2.6	3.3	3.0	5.3
Dairy products mfg.	-1.4	-2.2	1.3	-1.5	-2.7	0.6	-1.3	-1.0	2.9
Canned, frozen, preserved fruits and vegetables mfg.	0.1	0.7	2.1	-0.2	-0.3	3.7	0.6	2.4	-0.7
Grain mill products mfg.	-0.6	-1.8	0.6	-0.9	-1.6	-0.5	0.1	-2.2	2.7
Bakery products mfg.	--	-1.3	-0.9	-0.2	-1.4	-0.6	1.1	-0.2	-2.9
Sugar and confectionery products mfg.	0.3	-3.5	3.3	--	-3.3	1.7	1.6	-3.9	9.5
Fats and oil products mfg.	-1.0	-4.5	-6.7	-1.2	-4.9	-9.0	-0.4	-3.7	-2.0
Beverage mfg.	-0.2	-2.7	-3.1	-0.3	-2.7	-2.4	0.5	-2.7	-7.4
Misc. foods preparation and kindred products mfg.	2.3	-1.0	5.3	2.3	-1.4	4.3	2.3	0.7	9.1
Tobacco mfg.	-1.5	-5.1	-7.7	-1.4	-5.7	-3.6	-2.2	-1.5	-33.5
Apparel and textiles mfg.	-0.4	-3.7	2.4	-0.9	-4.6	2.6	0.5	-2.3	2.2
Leather mfg.	-1.2	-9.5	-6.0	-0.6	-10.0	-6.8	-2.2	-8.6	-4.7
Farm products raw material (wholesale trade)	1.2	-3.4	1.2	0.7	-4.2	-1.0	1.5	-2.9	2.3
Warehousing	--	-3.5	21.9	1.4	-3.1	27.4	-2.6	-4.3	9.2
Farm-related wholesale and retail trade	4.4	4.0	6.2	4.3	4.3	5.9	5.0	2.6	7.6
Indirect agribusiness	1.7	0.6	3.5	1.7	0.7	3.7	2.1	0.3	2.4
Total farm and farm-related employment	1.9	1.2	3.6	2.4	1.9	4.3	0.9	-0.4	2.0
Nonagricultural employment	2.4	2.7	2.0	2.4	3.0	2.1	2.1	1.8	1.8
Total employment	2.3	2.4	2.3	2.4	2.8	2.4	1.7	1.1	1.8

-- = None or negligible.

Appendix table 3--Appalachia: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	31,838	0.3	13,444	0.2	18,394	0.5
Chemical and fertilizer mining	256	--	145	--	111	--
Agricultural chemicals mfg.	3,889	--	1,755	--	2,134	0.1
Farm machinery and equipment mfg.	1,849	--	719	--	1,130	--
Farm machinery, equip., supplies (wholesale trade)	23,800	0.2	9,635	0.1	14,165	0.4
Agricultural credit institutions	2,044	--	1,190	--	854	--
Farming and agricultural services	486,409	4.7	141,845	2.1	341,439	10.1
Agricultural processing and marketing	597,974	5.8	277,185	4.0	320,789	9.5
Meat products mfg.	45,290	0.4	13,950	0.2	31,340	0.9
Dairy products mfg.	9,767	0.1	5,695	0.1	4,072	0.1
Canned, frozen, preserved fruits and vegetables mfg.	9,510	0.1	4,554	0.1	4,956	0.1
Grain mill products mfg.	8,525	0.1	5,051	0.1	3,474	0.1
Bakery products mfg.	26,910	0.3	23,379	0.3	3,531	0.1
Sugar and confectionery products mfg.	4,146	--	1,739	--	2,407	0.1
Fats and oil products mfg.	3,881	--	2,668	--	1,213	--
Beverage mfg.	18,286	0.2	11,063	0.2	7,223	0.2
Misc. foods preparation and kindred products mfg.	14,151	0.1	10,041	0.1	4,110	0.1
Tobacco mfg.	37,497	0.4	33,508	0.5	3,989	0.1
Apparel and textiles mfg.	389,446	3.8	152,665	2.2	236,781	7.0
Leather mfg.	16,262	0.2	6,272	0.1	9,990	0.3
Farm products raw material (wholesale trade)	11,341	0.1	4,552	0.1	6,789	0.2
Warehousing	2,962	--	2,048	--	914	--
Farm-related wholesale and retail trade	975,311	9.5	677,730	9.9	297,534	8.8
Indirect agribusiness	233,056	2.3	155,863	2.3	77,193	2.3
Total farm and farm-related employment	2,324,588	22.7	1,266,067	18.5	1,055,349	31.2
Nonagricultural employment	7,921,649	77.3	5,588,705	81.5	2,327,538	68.8
Total employment	10,246,237	100.0	6,854,772	100.0	3,382,887	100.0

-- = None or negligible.

Appendix table 4--Appalachia: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, and 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	-2.5	-6.4	2.7	-5.1	-8.5	10.6	-0.1	-5.0	-2.3
Chemical and fertilizer mining	-2.1	-17.7	-46.2	1/	54.1	16.9	-2.4	-23.3	-68.5
Agricultural chemicals mfg.	-0.5	-10.3	-1.4	-4.6	-16.7	10.5	7.3	-4.1	-9.5
Farm machinery and equipment mfg.	-14.4	-22.3	14.6	-15.5	-31.5	6.4	-11.4	-8.2	20.6
Farm machinery, equip., and supplies (wholesale trade)	0.2	-3.5	4.0	--	-3.2	12.5	0.3	-3.7	-1.0
Agricultural credit institutions	6.0	-4.8	-1.6	7.6	0.8	-1.2	4.7	-10.6	-2.1
Farming and agricultural services	-1.0	-1.1	-3.5	0.2	-0.2	-2.6	-1.6	-1.5	-4.0
Agricultural processing and marketing	0.2	-1.8	1.4	-0.3	-2.8	0.9	0.8	-0.9	1.9
Meat products mfg.	1.7	4.1	4.0	-1.5	0.6	1.2	4.0	5.9	5.3
Dairy products mfg.	-1.4	-3.5	-0.5	-1.6	-4.5	-5.5	1.0	-1.8	7.6
Canned, frozen, preserved fruits and vegetables mfg.	-0.2	2.7	1.7	0.5	3.9	-0.1	0.7	1.6	3.5
Grain mill products mfg.	0.7	1.3	1.5	--	-0.2	10.1	1.9	3.2	-8.8
Bakery products mfg.	0.3	-0.6	0.7	0.5	-0.9	5.0	-0.5	0.9	-20.8
Sugar and confectionery products mfg.	-0.7	0.6	7.9	-3.9	-5.6	-5.0	6.9	8.6	19.8
Fats and oil products mfg.	-1.4	0.7	-3.3	-1.7	-1.8	-6.2	-0.4	8.7	3.7
Beverage mfg.	0.6	-4.6	-8.8	-0.5	-4.9	-8.6	2.6	-4.2	-9.1
Misc. foods preparation and kindred products mfg.	2.8	1.5	-4.2	3.1	3.5	-1.3	2.4	-2.3	-10.6
Tobacco mfg.	-0.6	-5.5	-7.2	-0.6	-6.4	-2.1	-0.7	0.4	-35.5
Apparel and textiles mfg.	0.3	-1.6	3.3	-0.3	-2.5	2.6	0.7	-0.9	3.7
Leather mfg.	-0.7	-11.3	-9.7	-0.1	-11.1	-10.5	-1.1	-11.5	-9.2
Farm products raw material (wholesale trade)	-0.7	-3.8	-0.1	-2.6	-0.2	-8.4	0.7	-6.2	6.4
Warehousing	2.0	3.0	37.1	4.7	4.1	35.9	-2.1	0.9	39.8
Farm-related wholesale and retail trade	5.1	5.4	9.2	4.9	5.8	9.2	5.4	4.5	9.2
Indirect agribusiness	1.5	2.2	4.0	1.7	2.4	3.9	1.1	1.7	4.4
Total farm and farm-related employment	1.4	1.3	3.7	2.0	2.2	5.2	0.7	0.3	1.9
Nonagricultural employment	2.3	3.3	3.5	2.4	3.8	3.7	2.1	2.1	3.2
Total employment	2.1	2.8	3.6	2.3	3.5	4.0	1.6	1.5	2.8

-- = None or negligible.

1/ No employment in beginning or ending year.

Appendix table 5--Corn Belt: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	95,725	0.6	50,607	0.4	45,118	1.3
Chemical and fertilizer mining	577	--	363	--	214	--
Agricultural chemicals mfg.	8,422	0.1	5,805	--	2,617	0.1
Farm machinery and equipment mfg.	25,770	0.2	16,914	0.1	8,856	0.3
Farm machinery, equip., supplies (wholesale trade)	50,739	0.3	18,691	0.1	32,048	0.9
Agricultural credit institutions	10,217	0.1	8,834	0.1	1,383	--
Farming and agricultural services	670,291	4.2	199,556	1.6	468,196	13.5
Agricultural processing and marketing	347,938	2.2	214,959	1.7	132,979	3.8
Meat products mfg.	55,188	0.3	29,728	0.2	25,460	0.7
Dairy products mfg.	23,970	0.1	17,255	0.1	6,715	0.2
Canned, frozen, preserved fruits and vegetables mfg.	26,815	0.2	17,262	0.1	9,553	0.3
Grain mill products mfg.	30,749	0.2	20,120	0.2	10,629	0.3
Bakery products mfg.	33,541	0.2	28,411	0.2	5,130	0.1
Sugar and confectionary products mfg.	17,534	0.1	14,990	0.1	2,544	0.1
Fats and oil products mfg.	8,834	0.1	5,827	--	3,007	0.1
Beverage mfg.	28,363	0.2	24,196	0.2	4,167	0.1
Misc. foods preparation and kindred products mfg.	17,358	0.1	14,051	0.1	3,307	0.1
Tobacco mfg.	408	--	358	--	50	--
Apparel and textiles mfg.	48,610	0.3	24,863	0.2	23,747	0.7
Leather mfg.	21,897	0.1	6,243	--	15,654	0.5
Farm products raw material (wholesale trade)	30,996	0.2	8,976	0.1	22,020	0.6
Warehousing	3,675	--	2,679	--	996	--
Farm-related wholesale and retail trade	1,609,340	10.1	1,291,112	10.3	318,221	9.2
Indirect agribusiness	411,861	2.6	322,193	2.6	89,666	2.6
Total farm and farm-related employment	3,135,155	19.6	2,078,427	16.6	1,054,180	30.4
Nonagricultural employment	12,873,766	80.4	10,450,520	83.4	2,417,543	69.6
Total employment	16,008,921	100.0	12,528,947	100.0	3,471,723	100.0

-- = None or negligible.

Appendix table 6--Corn Belt: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, and 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	-0.9	-7.9	-1.5	-0.8	-8.0	-2.2	-1.0	-7.8	-0.6
Chemical and fertilizer mining	4.6	-10.4	-19.0	6.6	-1.3	-29.7	2.9	-23.1	9.2
Agricultural chemicals mfg.	-0.8	-4.0	-2.1	-0.4	-4.5	2.6	-1.5	-3.2	-11.0
Farm machinery and equipment mfg.	-4.2	-15.8	4.1	-3.1	-15.8	-0.9	-6.5	-15.7	15.3
Farm machinery, equip., and supplies (wholesale trade)	1.0	-5.3	-3.3	0.2	-4.8	-3.4	1.5	-5.6	-3.1
Agricultural credit institutions	9.7	3.1	-3.8	11.0	5.7	-3.5	5.9	-8.2	-5.5
Farming and agricultural services	-1.1	-0.4	-4.5	-0.5	0.6	-3.3	-1.4	-0.8	-5.2
Agricultural processing and marketing	-1.5	-3.1	0.5	-2.0	-3.6	-1.0	-0.5	-2.3	3.1
Meat products mfg.	-0.9	-4.1	9.4	-2.9	-4.8	5.7	2.7	-3.0	14.0
Dairy products mfg.	-2.3	-3.4	0.2	-1.6	-5.3	1.4	-4.3	2.6	-2.6
Canned, frozen, preserved fruits and vegetables mfg.	0.1	4.0	-2.8	0.2	6.4	-1.7	-0.1	0.4	-4.8
Grain mill products mfg.	-1.3	-3.3	1.4	-1.7	-3.2	-1.4	-0.7	-3.5	7.2
Bakery products mfg.	-1.8	-1.7	--	-2.1	-2.2	-1.5	0.7	2.0	8.8
Sugar and confectionery products mfg.	-0.3	-2.0	2.6	-0.5	-1.3	3.0	0.7	-5.2	0.1
Fats and oil products mfg.	-0.6	-4.0	-5.5	-0.7	-3.9	-5.5	-0.4	-4.2	-5.6
Beverage mfg.	-2.8	-1.3	-1.9	-3.3	-2.2	-1.9	1.0	5.3	-1.8
Misc. foods preparation and kindred products mfg.	-0.3	-3.6	1.0	-0.5	-5.4	2.0	0.9	5.7	-2.9
Tobacco mfg.	-4.3	-11.4	-9.5	-3.2	-9.2	-9.4	-7.7	-21.8	-10.7
Apparel and textiles mfg.	-3.3	-4.2	-4.3	-3.9	-6.0	-9.1	-2.5	-1.8	1.4
Leather mfg.	-2.8	-6.7	-4.4	-2.4	-9.5	-12.7	-3.0	-5.4	-0.7
Farm products raw material (wholesale trade)	1.5	-4.6	1.9	0.9	-6.4	-0.2	1.8	-3.9	2.8
Warehousing	-0.2	-3.1	17.5	2.4	-3.7	26.1	-4.8	-1.6	-0.7
Farm-related wholesale and retail trade	2.9	2.8	6.3	2.8	3.3	5.9	3.1	1.1	8.0
Indirect agribusiness	--	-0.5	3.1	-0.4	-0.4	3.3	1.5	-0.8	2.3
Total farm and farm-related employment	0.6	0.5	2.5	1.0	1.2	3.6	--	-0.8	0.4
Nonagricultural employment	0.7	2.0	1.9	0.8	2.1	1.7	0.7	1.5	2.7
Total employment	0.7	1.7	2.0	0.8	2.0	2.0	0.5	0.8	2.0

-- = None or negligible.

Appendix table 7--Delta States: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	20,415	0.6	6,845	0.3	13,570	0.9
Chemical and fertilizer mining	1,026	--	315	--	711	--
Agricultural chemicals mfg.	5,423	0.2	2,588	0.1	2,835	0.2
Farm machinery and equipment mfg.	1,724	--	509	--	1,215	0.1
Farm machinery, equip., supplies (wholesale trade)	11,367	0.3	2,912	0.1	8,455	0.6
Agricultural credit institutions	875	--	521	--	354	--
Farming and agricultural services	194,861	5.6	35,112	1.8	158,983	10.9
Agricultural processing and marketing	147,167	4.3	41,225	2.1	105,942	7.2
Meat products mfg.	35,572	1.0	7,337	0.4	28,235	1.9
Dairy products mfg.	3,825	0.1	2,347	0.1	1,478	0.1
Canned, frozen, preserved fruits and vegetables mfg.	6,702	0.2	3,369	0.2	3,333	0.2
Grain mill products mfg.	5,648	0.2	1,493	0.1	4,155	0.3
Bakery products mfg.	5,494	0.2	4,360	0.2	1,134	0.1
Sugar and confectionery products mfg.	2,923	0.1	1,374	0.1	1,549	0.1
Fats and oil products mfg.	2,659	0.1	735	--	1,924	0.1
Beverage mfg.	5,929	0.2	4,328	0.2	1,601	0.1
Misc. foods preparation and kindred products mfg.	9,148	0.3	5,632	0.3	3,516	0.2
Tobacco mfg.	1	--	0	--	1	--
Apparel and textiles mfg.	56,448	1.6	7,481	0.4	48,967	3.3
Leather mfg.	5,831	0.2	690	--	5,141	0.4
Farm products raw material (wholesale trade)	5,100	0.1	1,550	0.1	3,550	0.2
Warehousing	1,887	0.1	529	--	1,358	0.1
Farm-related wholesale and retail trade	340,157	9.8	217,458	11.1	122,698	8.4
Indirect agribusiness	68,344	2.0	34,855	1.8	33,489	2.3
Total farm and farm-related employment	770,944	22.3	335,495	17.1	434,682	29.7
Nonagricultural employment	2,690,080	77.7	1,625,510	82.9	1,029,859	70.3
Total employment	3,461,024	100.0	1,961,005	100.0	1,464,541	100.0

-- = None or negligible.

Appendix table 8--Delta States: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	--	-5.3	-6.4	1.3	-7.0	-8.8	-0.6	-4.4	-5.1
Chemical and fertilizer mining	-3.4	-7.4	-4.7	-6.8	-9.4	-0.3	-1.3	-6.4	-6.6
Agricultural chemicals mfg.	1.6	-3.8	-8.3	4.3	-9.2	-16.5	-2.4	4.6	0.7
Farm machinery and equipment mfg.	-2.6	-10.2	-0.7	4.5	-11.2	-3.2	-4.9	-9.7	0.3
Farm machinery, equip., supplies (wholesale trade)	-0.1	-4.9	-7.5	-1.4	-3.9	-6.6	0.4	-5.2	-7.8
Agricultural credit institutions	5.1	-7.9	11.5	4.4	-2.5	17.1	5.7	-13.1	4.1
Farming and agricultural services	-1.5	-3.3	-3.0	0.1	-2.6	-3.6	-1.8	-3.4	-2.9
Agricultural processing and marketing	0.5	-1.4	4.1	-0.5	-2.3	4.1	1.0	-1.0	4.1
Meat products mfg.	4.3	3.8	10.3	-0.6	1.9	10.6	6.1	4.4	10.2
Dairy products mfg.	-1.9	-6.8	9.3	-2.4	-5.8	6.3	-1.0	-8.5	14.6
Canned, frozen, preserved fruits and vegetables mfg.	-1.7	2.6	12.8	-1.9	1.1	30.7	-1.5	3.9	-0.9
Grain mill products mfg.	1.8	-3.8	6.0	-2.2	-2.5	0.1	3.6	-4.3	8.3
Bakery products mfg.	0.1	-3.9	-1.4	-1.1	-1.7	-2.8	3.8	-11.0	4.5
Sugar and confectionery products mfg.	-1.4	-8.7	3.9	-0.3	-12.5	-2.5	-2.9	-3.8	10.2
Fats and oil products mfg.	-4.6	-2.2	-6.0	-6.8	-2.3	-18.2	-3.3	-1.8	-0.3
Beverage mfg.	0.3	-3.6	-12.3	1.6	-3.1	-6.8	-2.0	-4.7	-24.5
Misc. foods preparation and kindred products mfg.	5.9	2.6	18.9	4.3	-0.4	11.8	11.7	9.6	32.5
Tobacco mfg.	6.4	-41.4	-50.0	1/	1/	1/	6.4	-41.4	-50.0
Apparel and textiles mfg.	-0.1	-2.5	1.1	-2.1	-4.6	--	0.3	-2.2	1.2
Leather mfg.	-2.7	-6.8	-2.2	15.8	3.2	15.0	-3.4	-7.6	-4.2
Farm products raw material (wholesale trade)	2.7	-2.5	1.0	4.8	-2.0	-2.3	1.8	-2.7	2.6
Warehousing	-6.0	1.0	3.3	-6.4	2.2	-7.7	-5.8	0.4	8.3
Farm-related wholesale and retail trade	5.5	2.9	1.6	5.8	3.2	1.2	5.0	2.5	2.2
Indirect agribusiness	1.8	-0.3	1.7	2.2	-1.6	3.2	1.4	1.1	0.1
Total farm and farm-related employment	1.6	-0.2	0.6	3.4	1.0	1.0	0.5	-1.1	0.3
Nonagricultural employment	3.2	0.5	-1.8	3.3	0.4	-1.9	2.3	1.2	-1.6
Total employment	2.8	0.3	-1.3	3.3	0.5	-1.4	1.7	0.5	-1.1

-- = None or negligible.

1/ No employment in beginning or ending year.

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Appendix table 9--Lake States: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	37,744	0.5	17,701	0.3	20,043	1.1
Chemical and fertilizer mining	426	--	309	--	117	--
Agricultural chemicals mfg.	892	--	625	--	267	--
Farm machinery and equipment mfg.	9,598	0.1	5,482	0.1	4,116	0.2
Farm machinery, equip., supplies (wholesale trade)	24,485	0.3	10,178	0.2	14,307	0.8
Agricultural credit institutions	2,343	--	1,107	--	1,236	0.1
Farming and agricultural services	364,454	4.4	119,967	1.9	243,721	13.7
Agricultural processing and marketing	161,335	2.0	95,450	1.5	65,885	3.7
Meat products mfg.	31,710	0.4	16,234	0.3	15,476	0.9
Dairy products mfg.	26,732	0.3	13,630	0.2	13,102	0.7
Canned, frozen, preserved fruits and vegetables mfg.	18,309	0.2	7,072	0.1	11,237	0.6
Grain mill products mfg.	10,079	0.1	6,696	0.1	3,383	0.2
Bakery products mfg.	12,716	0.2	11,393	0.2	1,323	0.1
Sugar and confectionery products mfg.	6,212	0.1	3,702	0.1	2,510	0.1
Fats and oil products mfg.	1,756	--	849	--	907	0.1
Beverage mfg.	11,202	0.1	9,461	0.1	1,741	0.1
Misc. foods preparation and kindred products mfg.	7,299	0.1	5,788	0.1	1,511	0.1
Tobacco mfg.	2	--	1	--	1	--
Apparel and textiles mfg.	15,165	0.2	9,614	0.1	5,551	0.3
Leather mfg.	9,752	0.1	6,986	0.1	2,766	0.2
Farm products raw material (wholesale trade)	9,053	0.1	3,202	--	5,851	0.3
Warehousing	1,348	--	822	--	526	--
Farm-related wholesale and retail trade	859,375	10.4	672,721	10.4	186,654	10.5
Indirect agribusiness	221,802	2.7	170,191	2.6	51,611	2.9
Total farm and farm-related employment	1,644,710	20.0	1,076,030	16.7	567,914	32.0
Nonagricultural employment	6,589,367	80.0	5,381,079	83.3	1,206,175	68.0
Total employment	8,234,077	100.0	6,457,109	100.0	1,774,089	100.0

-- = None or negligible.

Appendix table 10--Lake States: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	0.8	-6.5	0.2	-0.5	-7.4	-1.3	2.2	-5.6	1.6
Chemical and fertilizer mining	0.4	17.3	-0.9	-0.3	19.3	-6.9	2.2	11.7	19.4
Agricultural chemicals mfg.	-1.2	-7.1	3.7	-3.6	-6.6	25.3	2.8	-7.9	-26.0
Farm machinery and equipment mfg.	-2.6	-8.2	-4.9	-3.3	-11.5	-7.2	-1.0	-2.4	-1.6
Farm machinery, equip., supplies (wholesale trade)	2.2	-6.1	1.9	1.4	-5.6	2.3	2.9	-6.5	1.6
Agricultural credit institutions	9.7	-3.9	4.8	11.8	-3.8	-11.0	7.5	-4.0	24.7
Farming and agricultural services	-0.8	-1.2	-1.7	-0.2	-0.6	-1.0	-1.0	-1.5	-2.0
Agricultural processing and marketing	-0.7	-1.8	0.6	-1.2	-3.0	0.5	0.1	0.2	0.9
Meat products mfg.	-0.9	2.6	-0.4	-0.9	-1.1	0.3	-0.8	7.3	-1.3
Dairy products mfg.	-0.7	-1.1	1.3	-1.7	-1.3	1.5	0.4	-0.9	1.0
Canned, frozen, preserved fruits and vegetables mfg.	0.5	1.3	2.5	-0.8	-0.4	1.7	1.5	2.4	3.0
Grain mill products mfg.	-0.5	-2.3	-3.7	-1.3	-3.1	-5.2	1.8	-0.4	-0.6
Bakery products mfg.	-0.7	-4.3	10.7	-1.2	-4.3	11.4	4.3	-4.4	4.9
Sugar and confectionery products mfg.	7.8	-1.9	0.2	4.2	-0.5	-2.2	15.0	-3.9	3.9
Fats and oil products mfg.	1.2	-4.1	-9.9	0.9	-4.6	-20.1	1.5	-3.4	2.4
Beverage mfg.	-1.4	-8.5	-14.4	-1.8	-8.7	-15.1	1.0	-7.5	-10.4
Misc. foods preparation and kindred products mfg.	2.5	-0.1	12.2	2.5	-1.5	12.4	2.4	6.5	11.3
Tobacco mfg.	-15.4	1.9	-85.7	-9.9	--	-92.3	1/	1/	--
Apparel and textiles mfg.	-3.6	-1.9	8.5	-4.1	-0.7	7.8	-2.8	-3.8	9.8
Leather mfg.	-3.8	-5.1	-1.8	-2.1	-3.4	1.8	-6.5	-8.4	-9.8
Farm products raw material (wholesale trade)	1.7	-4.2	-2.3	1.3	-7.1	-6.9	2.1	-2.3	0.4
Warehousing	-2.3	0.9	2.6	-1.9	0.9	6.3	-2.7	0.9	-2.8
Farm-related wholesale and retail trade	3.5	3.7	6.4	3.3	4.1	6.0	4.2	2.3	7.8
Indirect agribusiness	1.2	2.0	5.6	0.7	2.3	5.6	3.0	1.1	5.8
Total farm and farm-related employment	1.4	1.4	3.7	1.7	2.2	4.5	0.9	-0.1	2.2
Nonagricultural employment	1.2	3.0	2.6	1.1	3.1	2.6	1.4	2.5	2.8
Total employment	1.2	2.7	2.8	1.2	3.0	2.9	1.2	1.6	2.6

-- = None or negligible.

1/ No employment in beginning or ending year.

Appendix table 11--Mountain States: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	23,624	0.4	6,738	0.2	16,886	1.0
Chemical and fertilizer mining	6,060	0.1	227	--	5,833	0.4
Agricultural chemicals mfg.	1,731	--	334	--	1,397	0.1
Farm machinery and equipment mfg.	1,624	--	709	--	915	0.1
Farm machinery, equip., supplies (wholesale trade)	12,954	0.2	4,631	0.1	8,323	0.5
Agricultural credit institutions	1,255	--	837	--	418	--
Farming and agricultural services	222,215	4.0	59,113	1.5	162,929	9.8
Agricultural processing and marketing	84,977	1.5	50,728	1.3	34,249	2.1
Meat products mfg.	11,835	0.2	8,571	0.2	3,264	0.2
Dairy products mfg.	7,546	0.1	4,334	0.1	3,212	0.2
Canned, frozen, preserved fruits and vegetables mfg.	13,319	0.2	1,358	--	11,961	0.7
Grain mill products mfg.	3,669	0.1	2,322	0.1	1,347	0.1
Bakery products mfg.	7,125	0.1	6,468	0.2	657	--
Sugar and confectionery products mfg.	3,248	0.1	1,053	--	2,195	0.1
Fats and oil products mfg.	914	--	711	--	203	--
Beverage mfg.	9,279	0.2	7,902	0.2	1,377	0.1
Misc. foods preparation and kindred products mfg.	4,300	0.1	3,865	0.1	435	--
Tobacco mfg.	1	--	1	--	0	--
Apparel and textiles mfg.	12,965	0.2	9,389	0.2	3,576	0.2
Leather mfg.	2,930	0.1	2,616	0.1	314	--
Farm products raw material (wholesale trade)	6,798	0.1	1,603	--	5,195	0.3
Warehousing	1,048	--	535	--	513	--
Farm-related wholesale and retail trade	611,050	10.9	422,904	10.7	188,051	11.3
Indirect agribusiness	76,348	1.4	58,858	1.5	17,490	1.1
Total farm and farm-related employment	1,018,214	18.1	598,341	15.2	419,605	25.3
Nonagricultural employment	4,603,281	81.9	3,341,926	84.8	1,239,036	74.7
Total employment	5,621,495	100.0	3,940,267	100.0	1,658,641	100.0

-- = None or negligible.

Appendix table 12--Mountain States: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	2.1	-5.8	-1.3	2.2	-6.1	1.4	2.0	-5.8	-2.3
Chemical and fertilizer mining	6.0	-8.1	-7.2	15.5	-18.8	-37.5	5.4	-7.2	-5.4
Agricultural chemicals mfg.	-1.1	-5.4	-5.0	0.9	-10.3	-34.3	-2.1	-3.1	6.3
Farm machinery and equipment mfg.	-2.8	-8.5	19.9	-2.6	-12.9	34.3	-3.1	-4.9	10.8
Farm machinery, equip., supplies (wholesale trade)	1.0	-4.6	-0.8	1.0	-4.2	5.2	1.0	-4.8	-3.7
Agricultural credit institutions	7.8	-3.3	6.6	12.9	2.1	-0.9	3.0	-12.6	25.9
Farming and agricultural services	0.4	0.4	-1.2	2.3	2.0	0.9	-0.2	-0.2	-1.9
Agricultural processing and marketing	0.1	-1.2	1.9	0.2	-0.8	2.6	--	-1.8	0.8
Meat products mfg.	-5.1	2.7	31.7	-7.5	5.9	46.4	-0.6	-2.3	4.1
Dairy products mfg.	1.1	0.4	-6.3	0.9	0.5	-5.5	1.3	0.2	-7.4
Canned, frozen, preserved fruits and vegetables mfg.	-1.6	3.6	1.5	1.9	-4.2	40.4	-1.9	4.4	-1.6
Grain mill products mfg.	-1.0	2.8	-7.6	0.2	5.2	-10.7	-2.5	-1.1	-1.7
Bakery products mfg.	1.0	-2.5	7.3	2.0	-2.4	6.7	-6.2	-3.6	13.1
Sugar and confectionery products mfg.	0.3	-12.6	16.6	-2.9	-11.0	-6.2	2.6	-13.7	32.1
Fats and oil products mfg.	7.8	-16.8	-9.1	14.6	-19.0	-7.7	-7.9	-6.6	-13.6
Beverage mfg.	3.2	-0.0	-18.2	3.8	-0.2	-19.2	-0.4	1.1	-11.8
Misc. foods preparation and kindred products mfg.	1.8	3.6	10.7	1.6	5.0	11.6	2.9	-5.5	3.1
Tobacco mfg.	-19.3	31.6	-83.3	-19.3	31.6	-83.3	1/	1/	1/
Apparel and textiles mfg.	0.1	-4.1	2.2	-0.7	-2.1	0.3	1.9	-8.7	7.6
Leather mfg.	-1.8	-2.1	-0.3	-1.5	-2.1	-1.2	-3.5	-2.6	7.5
Farm products raw material (wholesale trade)	3.0	-2.4	-5.3	2.4	-1.7	-10.2	3.2	-2.7	-3.7
Warehousing	1.3	-15.1	28.3	3.8	-12.5	20.5	-0.7	-17.7	37.5
Farm-related wholesale and retail trade	6.6	3.6	4.2	6.7	4.9	2.9	6.6	0.9	7.0
Indirect agribusiness	4.8	2.8	7.1	4.4	3.7	8.3	5.9	0.2	3.0
Total farm and farm-related employment	3.9	2.1	2.9	5.1	3.7	3.2	2.6	-0.1	2.3
Nonagricultural employment	4.5	2.9	1.0	4.9	3.8	1.5	3.3	1.2	-0.2
Total employment	4.4	2.8	1.3	4.9	3.8	1.7	3.1	0.8	0.4

-- = None or negligible.

1/ No employment in beginning or ending year.

Appendix table 13--Northeast: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	43,015	0.2	32,978	0.1	10,037	0.4
Chemical and fertilizer mining	628	--	279	--	349	--
Agricultural chemicals mfg.	2,300	--	1,982	--	318	--
Farm machinery and equipment mfg.	3,794	--	2,678	--	1,116	--
Farm machinery, equip., supplies (wholesale trade)	30,714	0.1	22,846	0.1	7,868	0.3
Agricultural credit institutions	5,579	--	5,193	--	386	--
Farming and agricultural services	351,647	1.3	226,203	0.9	122,738	5.3
Agricultural processing and marketing	670,487	2.5	577,760	2.4	92,727	4.0
Meat products mfg.	37,639	0.1	25,534	0.1	12,105	0.5
Dairy products mfg.	29,252	0.1	22,461	0.1	6,791	0.3
Canned, frozen, preserved fruits and vegetables mfg.	36,379	0.1	27,568	0.1	8,811	0.4
Grain mill products mfg.	11,602	--	9,077	--	2,525	0.1
Bakery products mfg.	49,182	0.2	47,082	0.2	2,100	0.1
Sugar and confectionery products mfg.	24,893	0.1	24,664	0.1	229	--
Fats and oil products mfg.	2,862	--	2,326	--	536	--
Beverage mfg.	30,478	0.1	28,596	0.1	1,882	0.1
Misc. foods preparation and kindred products mfg.	38,216	0.1	31,673	0.1	6,543	0.3
Tobacco mfg.	1,394	--	1,394	--	0	--
Apparel and textiles mfg.	343,370	1.3	304,980	1.3	38,390	1.6
Leather mfg.	53,527	0.2	42,207	0.2	11,320	0.5
Farm products raw material (wholesale trade)	7,068	--	5,815	--	1,253	0.1
Warehousing	4,625	--	4,383	--	242	--
Farm-related wholesale and retail trade	2,570,420	9.8	2,325,124	9.7	245,212	10.5
Indirect agribusiness	654,620	2.5	591,930	2.5	62,689	2.7
Total farm and farm-related employment	4,290,189	16.3	3,753,995	15.6	533,403	22.9
Nonagricultural employment	22,043,164	83.7	20,240,441	84.4	1,795,510	77.1
Total employment	26,333,353	100.0	23,994,436	100.0	2,328,913	100.0

-- = None or negligible.

Appendix table 14--Northeast: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	0.3	-3.1	9.6	0.2	-3.1	11.9	0.8	-3.0	2.6
Chemical and fertilizer mining	-6.1	2.5	-3.2	-4.5	-6.0	-10.6	-8.8	15.6	3.6
Agricultural chemicals mfg.	-3.9	-7.8	-15.9	-4.4	-8.0	-14.7	-0.4	-6.5	-22.6
Farm machinery and equipment mfg.	-1.6	-11.0	-6.3	-3.1	-12.2	-8.4	4.8	-7.3	-0.8
Farm machinery, equip., supplies (wholesale trade)	0.1	-2.1	15.4	-0.1	-1.8	19.7	0.5	-2.9	4.4
Agricultural credit institutions	17.7	2.7	7.4	19.4	2.7	7.6	5.0	2.1	4.6
Farming and agricultural services	0.5	0.3	1.0	0.6	1.0	1.8	0.1	-0.8	-0.6
Agricultural processing and marketing	-1.5	-4.9	-2.4	-1.6	-5.1	-2.4	-1.0	-3.4	-2.6
Meat products mfg.	-0.9	-1.0	-0.1	-1.6	-2.4	-1.0	1.2	2.3	1.8
Dairy products mfg.	-2.2	-1.5	-3.7	-2.1	-1.7	-7.8	-2.2	-0.6	12.8
Canned, frozen, preserved fruits and vegetables mfg.	-1.3	2.5	1.8	-1.8	2.5	6.6	0.3	2.6	-10.7
Grain mill products mfg.	-0.6	-0.5	-2.7	-1.1	-0.6	-2.8	1.7	-0.5	-2.3
Bakery products mfg.	-1.2	-1.7	-3.1	-1.1	-1.8	-3.1	-2.4	0.3	-4.0
Sugar and confectionery products mfg.	-1.4	-4.5	5.1	-1.4	-4.7	5.5	-2.3	8.1	-26.8
Fats and oil products mfg.	-6.8	-6.0	-5.9	-5.6	-6.9	-11.0	-13.6	0.6	25.5
Beverage mfg.	-2.2	-2.0	-3.3	-2.4	-1.5	-3.2	0.6	-8.2	-3.5
Misc. foods preparation and kindred products mfg.	-0.1	1.2	2.4	0.1	0.9	3.9	-1.0	3.1	-4.2
Tobacco mfg.	-6.9	-12.0	-38.5	-7.2	-10.6	-37.2	-2.9	-36.3	1/
Apparel and textiles mfg.	-1.6	-6.2	-2.9	-1.6	-6.3	-3.0	-1.5	-4.9	-2.5
Leather mfg.	-1.6	-11.5	-8.1	-1.9	-11.7	-8.3	-0.7	-10.6	-7.3
Farm products raw material (wholesale trade)	0.5	-3.3	-3.1	0.6	-3.9	-3.2	--	0.2	-2.8
Warehousing	2.3	-4.7	31.9	3.4	-5.2	34.1	-10.2	3.8	1.3
Farm-related wholesale and retail trade	3.0	4.0	5.7	2.8	4.0	5.2	4.6	4.1	10.5
Indirect agribusiness	1.0	0.4	2.7	1.0	0.4	2.8	0.8	--	1.8
Total farm and farm-related employment	1.3	1.3	3.5	1.3	1.4	3.4	1.4	0.7	4.2
Nonagricultural employment	1.4	2.9	2.7	1.4	2.9	2.7	1.6	2.6	3.3
Total employment	1.4	2.6	2.8	1.4	2.7	2.8	1.6	2.2	3.5

-- = None or negligible.

1/ No employment in beginning or ending year.

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Appendix table 15--Northern Plains: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	32,284	1.3	8,213	0.6	24,071	1.9
Chemical and fertilizer mining	132	--	0	--	132	--
Agricultural chemicals mfg.	1,105	--	406	--	699	0.1
Farm machinery and equipment mfg.	10,842	0.4	2,931	0.2	7,911	0.6
Farm machinery, equip., supplies (wholesale trade)	17,870	0.7	3,492	0.3	14,378	1.2
Agricultural credit institutions	2,335	0.1	1,384	0.1	951	0.1
Farming and agricultural services	260,767	10.4	24,531	1.9	236,075	19.0
Agricultural processing and marketing	85,822	3.4	30,092	2.4	55,730	4.5
Meat products mfg.	30,133	1.2	8,595	0.7	21,538	1.7
Dairy products mfg.	4,578	0.2	2,366	0.2	2,212	0.2
Canned, frozen, preserved fruits and vegetables mfg.	3,827	0.2	1,889	0.1	1,938	0.2
Grain mill products mfg.	6,476	0.3	3,402	0.3	3,074	0.2
Bakery products mfg.	5,316	0.2	2,684	0.2	2,632	0.2
Sugar and confectionery products mfg.	1,268	0.1	168	--	1,100	0.1
Fats and oil products mfg.	1,265	0.1	690	0.1	575	--
Beverage mfg.	3,298	0.1	1,836	0.1	1,462	0.1
Misc. foods preparation and kindred products mfg.	3,258	0.1	2,683	0.2	575	--
Tobacco mfg.	1	--	1	--	0	--
Apparel and textiles mfg.	5,358	0.2	2,250	0.2	3,108	0.3
Leather mfg.	443	--	245	--	198	--
Farm products raw material (wholesale trade)	19,098	0.8	2,324	0.2	16,774	1.4
Warehousing	1,503	0.1	959	0.1	544	--
Farm-related wholesale and retail trade	238,440	9.5	129,403	10.2	109,037	8.8
Indirect agribusiness	42,118	1.7	25,640	2.0	16,478	1.3
Total farm and farm-related employment	659,431	26.2	217,879	17.2	441,391	35.5
Nonagricultural employment	1,855,768	73.8	1,050,122	82.8	800,686	64.5
Total employment	2,515,199	100.0	1,268,001	100.0	1,242,077	100.0

-- = None or negligible.

Appendix table 16--Northern Plains: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	0.2	-6.6	1.2	0.4	-6.7	2.8	0.2	-6.6	0.8
Chemical and fertilizer mining	-15.2	16.8	97.0	1/	1/	1/	-15.2	16.8	97.0
Agricultural chemicals mfg.	3.4	-11.7	-11.0	3.8	-16.3	-31.4	2.9	-6.1	7.5
Farm machinery and equipment mfg.	-2.6	-8.2	2.1	-4.6	-6.6	2.5	-1.8	-8.8	1.9
Farm machinery, equip., supplies (wholesale trade)	1.2	-5.5	0.6	1.0	-4.2	5.7	1.2	-5.8	-0.5
Agricultural credit institutions	14.7	-4.2	6.0	22.0	-6.8	11.8	7.3	-0.1	-1.3
Farming and agricultural services	-1.0	-2.2	0.2	1.0	-1.3	1.8	-1.2	-2.3	--
Agricultural processing and marketing	0.3	-0.3	-1.1	-1.6	-1.8	-3.4	1.7	0.6	0.2
Meat products mfg.	1.0	2.1	-4.2	-2.9	-4.6	-15.1	4.9	6.3	0.9
Dairy products mfg.	-3.4	-4.0	3.6	-3.1	-3.4	4.9	-3.6	-4.6	2.2
Canned, frozen, preserved fruits and vegetables mfg.	-0.4	1.6	7.6	-4.9	5.4	21.0	3.5	-0.9	-2.9
Grain mill products mfg.	-0.6	-1.9	-6.7	1.4	-0.5	-7.3	-2.3	-3.2	-6.1
Bakery products mfg.	0.7	-1.1	-8.5	1.8	-2.9	-3.5	-0.4	0.7	-13.0
Sugar and confectionery products mfg.	-1.0	-11.7	3.2	-22.6	9.3	-23.6	6.0	-14.2	9.0
Fats and oil products mfg.	4.5	-3.0	-7.6	2.5	0.6	-12.8	6.7	-7.1	-0.5
Beverage mfg.	3.0	-4.7	3.4	3.2	-3.7	-2.2	2.8	-6.0	11.3
Misc. foods preparation and kindred products mfg.	2.4	4.2	19.8	1.9	3.2	13.7	7.4	11.7	59.7
Tobacco mfg.	1/	1/	-50.0	1/	1/	-50.0	1/	1/	1/
Apparel and textiles mfg.	-1.9	1.6	-7.4	-1.5	1.3	-0.4	-2.2	1.7	-12.0
Leather mfg.	2.2	-2.7	4.5	0.2	2.1	4.7	4.1	-7.5	4.2
Farm products raw material (wholesale trade)	1.0	-2.1	3.0	-1.6	-2.7	7.1	1.5	-2.0	2.5
Warehousing	-5.6	5.6	10.9	-5.4	8.8	11.3	-5.8	1.0	10.3
Farm-related wholesale and retail trade	3.9	1.8	4.5	4.3	3.6	5.3	3.5	-0.2	3.7
Indirect agribusiness	2.2	1.9	3.3	2.5	3.6	5.0	1.7	-0.3	0.8
Total farm and farm-related employment	0.8	-0.7	1.8	2.3	1.6	3.5	0.2	-1.7	1.0
Nonagricultural employment	2.2	1.7	1.4	2.5	2.9	2.6	1.7	0.4	-0.1
Total employment	1.8	1.0	1.5	2.5	2.6	2.7	1.1	-0.4	0.3

-- = None or negligible.

1/ No employment in beginning or ending year.

Appendix table 17--Pacific: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	40,314	0.3	32,746	0.2	7,568	0.7
Chemical and fertilizer mining	2,111	--	2,105	--	6	--
Agricultural chemicals mfg.	2,788	--	2,617	--	171	--
Farm machinery and equipment mfg.	3,809	--	3,257	--	552	0.1
Farm machinery, equip., supplies (wholesale trade)	28,860	0.2	22,320	0.2	6,540	0.6
Agricultural credit institutions	2,746	--	2,447	--	299	--
Farming and agricultural services	483,197	3.1	354,721	2.4	127,591	12.1
Agricultural processing and marketing	345,473	2.2	317,678	2.2	27,795	2.6
Meat products mfg.	20,487	0.1	18,595	0.1	1,892	0.2
Dairy products mfg.	15,148	0.1	13,702	0.1	1,446	0.1
Canned, frozen, preserved fruits and vegetables mfg.	53,062	0.3	42,194	0.3	10,868	1.0
Grain mill products mfg.	9,451	0.1	8,549	0.1	902	0.1
Bakery products mfg.	27,580	0.2	27,208	0.2	372	--
Sugar and confectionery products mfg.	12,012	0.1	10,874	0.1	1,138	0.1
Fats and oil products mfg.	3,230	--	2,941	--	289	--
Beverage mfg.	28,751	0.2	26,961	0.2	1,790	0.2
Misc. foods preparation and kindred products mfg.	31,197	0.2	26,736	0.2	4,461	0.4
Tobacco mfg.	22	--	22	--	0	--
Apparel and textiles mfg.	125,460	0.8	123,619	0.8	1,841	0.2
Leather mfg.	7,736	--	7,484	0.1	252	--
Farm products raw material (wholesale trade)	6,543	--	4,747	--	1,796	0.2
Warehousing	4,794	--	4,046	--	748	0.1
Farm-related wholesale and retail trade	1,654,598	10.5	1,531,646	10.4	122,873	11.6
Indirect agribusiness	291,489	1.8	271,634	1.8	19,855	1.9
Total farm and farm-related employment	2,815,071	17.8	2,508,425	17.0	305,682	28.9
Nonagricultural employment	12,970,505	82.2	12,205,614	83.0	750,440	71.1
Total employment	15,785,576	100.0	14,714,039	100.0	1,056,122	100.0

-- = None or negligible.

Appendix table 18--Pacific: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	2.5	-3.8	3.7	2.4	-3.1	5.1	2.8	-6.2	-1.9
Chemical and fertilizer mining	17.8	-6.3	-7.3	16.4	-4.9	-2.4	40.2	-21.7	-95.0
Agricultural chemicals mfg.	-0.1	-4.9	-14.6	--	-3.6	-17.0	-1.1	-24.6	54.1
Farm machinery and equipment mfg.	0.9	-4.5	-9.5	1.1	-4.5	-11.9	-0.6	-4.2	8.0
Farm machinery, equip., supplies (wholesale trade)	2.0	-3.7	7.6	1.8	-3.1	10.6	2.7	-5.4	-1.5
Agricultural credit institutions	7.6	2.6	19.3	8.0	4.4	24.3	6.6	-5.3	-10.5
Farming and agricultural services	-0.7	0.2	1.1	-0.6	0.3	1.8	-1.0	-0.2	-0.8
Agricultural processing and marketing	2.2	-1.3	8.5	2.4	-1.7	9.2	0.4	3.7	1.3
Meat products mfg.	-0.4	1.8	-4.9	0.3	-0.3	1.6	-6.8	20.6	-41.6
Dairy products mfg.	-0.2	-1.7	17.1	--	-1.4	18.5	-1.0	-4.1	5.0
Canned, frozen, preserved fruits and vegetables mfg.	0.8	-1.4	1.9	0.6	-2.8	2.7	1.8	4.9	-0.9
Grain mill products mfg.	0.2	-0.6	--	0.5	-0.8	-0.2	-2.5	1.9	1.7
Bakery products mfg.	2.0	-0.4	-1.6	2.1	-0.5	-1.8	1.7	10.0	13.1
Sugar and confectionery products mfg.	3.0	-1.7	-6.2	3.5	-2.5	-7.4	-4.7	11.6	6.2
Fats and oil products mfg.	0.7	-5.9	-6.1	0.6	-5.8	-7.6	1.0	-7.6	12.0
Beverage mfg.	2.7	0.5	4.5	2.8	0.3	4.7	1.8	3.5	1.9
Misc. foods preparation and kindred products mfg.	4.4	-4.3	7.9	4.5	-4.9	5.2	4.1	0.6	27.6
Tobacco mfg.	-27.3	5.1	-33.3	-27.3	5.1	-33.3	1/	1/	1/
Apparel and textiles mfg.	3.2	-0.5	21.8	3.3	-0.5	21.6	-3.2	2.0	36.8
Leather mfg.	3.8	-9.8	-4.1	3.9	-9.9	-5.3	-2.8	-2.7	61.5
Farm products raw material (wholesale trade)	2.5	-2.8	-0.1	2.6	-2.4	0.1	2.3	-3.8	-0.5
Warehousing	1.7	-2.0	18.4	1.4	-1.1	22.5	3.1	-5.4	0.3
Farm-related wholesale and retail trade	5.5	4.1	7.6	5.4	4.2	7.6	6.1	2.1	8.4
Indirect agribusiness	3.1	0.5	7.3	3.1	0.5	7.4	3.4	0.4	6.9
Total farm and farm-related employment	3.3	2.1	6.4	3.5	2.3	6.9	1.7	0.8	3.4
Nonagricultural employment	3.6	3.4	3.0	3.6	3.4	2.9	2.3	2.4	4.2
Total employment	3.5	3.1	3.6	3.6	3.2	3.6	2.1	2.0	3.9

-- = None or negligible.

1/ No employment in beginning or ending year.

Appendix table 19--Southeast: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	40,777	0.4	24,086	0.3	16,691	0.7
Chemical and fertilizer mining	4,115	--	3,781	--	334	--
Agricultural chemicals mfg.	11,139	0.1	6,615	0.1	4,524	0.2
Farm machinery and equipment mfg.	3,157	--	1,256	--	1,901	0.1
Farm machinery, equip., supplies (wholesale trade)	20,967	0.2	11,400	0.1	9,567	0.4
Agricultural credit institutions	1,399	--	1,034	--	365	--
Farming and agricultural services	331,009	3.0	158,306	1.8	169,763	7.5
Agricultural processing and marketing	443,906	4.0	218,572	2.5	225,334	10.0
Meat products mfg.	41,847	0.4	17,294	0.2	24,553	1.1
Dairy products mfg.	8,788	0.1	7,935	0.1	853	--
Canned, frozen, preserved fruits and vegetables mfg.	18,508	0.2	13,215	0.1	5,293	0.2
Grain mill products mfg.	7,431	0.1	4,506	0.1	2,925	0.1
Bakery products mfg.	21,108	0.2	18,123	0.2	2,985	0.1
Sugar and confectionery products mfg.	8,075	0.1	5,577	0.1	2,498	0.1
Fats and oil products mfg.	2,755	--	1,652	--	1,103	--
Beverage mfg.	15,844	0.1	14,009	0.2	1,835	0.1
Misc. foods preparation and kindred products mfg.	16,922	0.2	12,884	0.1	4,038	0.2
Tobacco mfg.	4,910	--	4,540	0.1	370	--
Apparel and textiles mfg.	282,575	2.5	110,435	1.2	172,140	7.6
Leather mfg.	4,756	--	3,886	--	870	--
Farm products raw material (wholesale trade)	7,648	0.1	2,356	--	5,292	0.2
Warehousing	2,739	--	2,160	--	579	--
Farm-related wholesale and retail trade	1,231,319	11.0	1,017,456	11.4	213,790	9.5
Indirect agribusiness	238,306	2.1	181,618	2.0	56,688	2.5
Total farm and farm-related employment	2,285,317	20.5	1,600,038	18.0	682,266	30.3
Nonagricultural employment	8,882,119	79.5	7,304,611	82.0	1,572,594	69.7
Total employment	11,167,436	100.0	8,904,649	100.0	2,254,860	100.0

-- = None or negligible.

Appendix table 20--Southeast: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	0.2	-4.9	0.2	0.1	-5.3	-0.1	0.4	-4.4	0.7
Chemical and fertilizer mining	5.1	-4.7	-20.1	3.4	-2.6	-22.7	30.3	-24.7	28.5
Agricultural chemicals mfg.	-0.3	-4.5	-4.8	-1.5	-7.8	-6.1	3.1	1.8	-2.7
Farm machinery and equipment mfg.	-1.4	-11.3	5.6	1.3	-12.9	-12.7	-3.7	-9.6	22.6
Farm machinery, equip., supplies (wholesale trade)	-0.6	-3.6	7.5	-0.8	-2.5	14.1	-0.4	-4.8	0.5
Agricultural credit institutions	5.7	-9.3	5.0	9.0	-11.5	41.5	1.9	-6.3	-39.4
Farming and agricultural services	-1.0	-2.1	--	1.0	-0.3	0.8	-2.4	-3.9	-0.8
Agricultural processing and marketing	0.7	-2.5	2.5	-0.2	-2.7	2.0	1.8	-2.3	3.0
Meat products mfg.	3.9	1.4	3.1	2.0	2.3	-0.9	5.5	0.7	6.2
Dairy products mfg.	-2.0	-0.9	-2.4	-1.4	-1.4	-0.8	-6.4	3.4	-15.1
Canned, frozen, preserved fruits and vegetables mfg.	0.8	-3.2	-3.5	0.7	-6.2	-1.8	1.1	6.5	-7.6
Grain mill products mfg.	-1.4	2.0	18.6	-2.9	5.0	17.5	0.7	-1.9	20.4
Bakery products mfg.	1.3	1.5	-5.0	0.6	1.8	-6.0	6.2	--	1.7
Sugar and confectionery products mfg.	-1.3	1.1	8.9	0.3	0.7	5.6	-4.6	2.2	17.1
Fats and oil products mfg.	-0.4	-1.0	-8.7	-3.0	1.2	-7.2	3.5	-3.8	-10.7
Beverage mfg.	-0.1	-2.0	2.6	0.5	-1.8	3.7	-3.9	-3.8	-4.6
Misc. foods preparation and kindred products mfg.	2.1	3.0	4.5	2.3	3.7	2.4	1.8	0.7	11.7
Tobacco mfg.	-4.3	4.7	2.7	-2.7	6.2	2.2	-11.9	-8.8	10.1
Apparel and textiles mfg.	0.6	-3.9	3.2	-1.0	-4.9	3.5	1.8	-3.2	3.0
Leather mfg.	0.1	-7.3	-3.9	2.6	-7.3	-3.4	-7.3	-6.9	-6.3
Farm products raw material (wholesale trade)	0.9	0.3	-4.1	3.0	-3.8	-4.2	-0.2	2.5	-4.0
Warehousing	2.7	-3.6	30.1	7.0	-8.6	51.6	-8.6	14.5	-14.9
Farm-related wholesale and retail trade	5.9	6.3	8.3	5.9	6.3	8.1	6.2	6.2	8.9
Indirect agribusiness	3.2	2.3	2.6	3.5	2.3	2.8	2.1	2.3	2.1
Total farm and farm-related employment	2.7	2.2	5.1	3.5	3.4	5.8	1.1	-0.3	3.7
Nonagricultural employment	3.5	4.5	3.3	3.6	4.8	3.2	3.2	3.5	3.8
Total employment	3.3	4.1	3.7	3.6	4.5	3.7	2.5	2.3	3.8

-- = None or negligible.

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Appendix table 21--Southern Plains: Farm and farm-related employment by metro and nonmetro areas, 1987

Industry	Total		Metro		Nonmetro	
	Jobs	Share of total	Jobs	Share of total	Jobs	Share of total
	No.	Pct.	No.	Pct.	No.	Pct.
Agricultural inputs	27,668	0.3	14,868	0.2	12,800	0.9
Chemical and fertilizer mining	1,082	--	176	--	906	0.1
Agricultural chemicals mfg.	3,448	--	2,943	--	505	--
Farm machinery and equipment mfg.	2,261	--	1,269	--	992	0.1
Farm machinery, equip., supplies (wholesale trade)	19,416	0.2	9,513	0.1	9,903	0.7
Agricultural credit institutions	1,461	--	967	--	494	--
Farming and agricultural services	356,614	4.3	110,772	1.6	244,842	17.5
Agricultural processing and marketing	177,574	2.1	127,847	1.9	49,727	3.5
Meat products mfg.	27,608	0.3	15,651	0.2	11,957	0.9
Dairy products mfg.	7,589	0.1	6,407	0.1	1,182	0.1
Canned, frozen, preserved fruits and vegetables mfg.	10,416	0.1	6,676	0.1	3,740	0.3
Grain mill products mfg.	7,475	0.1	4,940	0.1	2,535	0.2
Bakery products mfg.	13,877	0.2	12,212	0.2	1,665	0.1
Sugar and confectionery products mfg.	3,807	--	3,423	0.1	384	--
Fats and oil products mfg.	2,868	--	2,228	--	640	--
Beverage mfg.	15,399	0.2	14,245	0.2	1,154	0.1
Misc. foods preparation and kindred products mfg.	11,320	0.1	10,307	0.2	1,013	0.1
Tobacco mfg.	126	--	111	--	15	--
Apparel and textiles mfg.	51,618	0.6	38,006	0.6	13,612	1.0
Leather mfg.	7,588	0.1	5,936	0.1	1,652	0.1
Farm products raw material (wholesale trade)	14,223	0.2	5,329	0.1	8,894	0.6
Warehousing	3,660	--	2,376	--	1,284	0.1
Farm-related wholesale and retail trade	891,200	10.7	757,247	11.1	133,944	9.6
Indirect agribusiness	136,460	1.6	116,089	1.7	20,371	1.5
Total farm and farm-related employment	1,589,516	19.2	1,126,823	16.5	461,684	32.9
Nonagricultural employment	6,710,612	80.8	5,716,568	83.5	940,504	67.1
Total employment	8,300,128	100.0	6,843,391	100.0	1,402,188	100.0

-- = None or negligible.

Appendix table 22--Southern Plains: Change in farm and farm-related employment by metro and nonmetro areas, 1975-82, 1982-86, and 1986-87

Industry	Total			Metro			Nonmetro		
	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87	1975-82	1982-86	1986-87
	Compound average annual percentage change								
Agricultural inputs	1.2	-5.0	-3.7	-0.1	-4.0	1.4	2.6	-6.3	-7.8
Chemical and fertilizer mining	2.6	-8.5	-20.9	-5.3	-18.6	-9.7	6.3	-9.8	-9.5
Agricultural chemicals mfg.	-5.0	1.0	-8.0	-6.3	7.3	-5.1	-2.3	-15.4	-21.9
Farm machinery and equipment mfg.	2.0	-17.4	16.6	1.3	-20.4	20.4	3.3	-12.7	12.1
Farm machinery, equip., supplies (wholesale trade)	1.9	-4.2	-3.7	1.1	-3.8	1.8	2.7	-4.5	-8.3
Agricultural credit institutions	5.7	-2.0	-3.5	6.9	1.3	0.6	4.3	-6.8	-10.7
Farming and agricultural services	-0.1	-2.0	2.0	1.8	-0.9	1.3	-0.9	-2.5	2.3
Agricultural processing and marketing	1.1	-4.4	2.4	1.5	-4.6	3.1	0.3	-4.0	0.7
Meat products mfg.	1.8	1.7	6.2	0.4	3.6	3.2	3.6	-0.6	10.4
Dairy products mfg.	0.2	-4.5	9.3	-0.2	-4.2	7.1	2.8	-6.0	23.4
Canned, frozen, preserved fruits and vegetables mfg.	1.4	1.5	3.9	1.0	3.0	-3.8	2.3	-1.6	21.1
Grain mill products mfg.	-0.1	-4.6	0.1	0.4	-4.3	-0.3	-1.0	-5.3	1.0
Bakery products mfg.	2.2	-0.4	-2.7	1.7	-0.5	-3.4	7.8	0.5	2.7
Sugar and confectionery products mfg.	7.7	-5.2	8.6	7.7	-3.9	9.2	8.2	-13.5	3.2
Fats and oil products mfg.	0.7	-8.8	-11.8	-1.3	-6.8	-12.2	7.8	-14.6	-10.2
Beverage mfg.	3.1	-4.9	7.2	3.8	-5.4	10.2	-2.4	--	-19.6
Misc. foods preparation and kindred products mfg.	5.2	-5.0	2.6	6.2	-5.5	4.1	-2.5	-0.2	-10.7
Tobacco mfg.	0.1	-12.4	8.6	-1.1	-14.1	14.4	30.2	--	-21.1
Apparel and textiles mfg.	-0.9	-7.2	-2.1	-0.1	-8.1	3.1	-2.7	-5.0	-14.3
Leather mfg.	8.3	-7.8	-1.8	10.5	-7.6	-3.7	2.0	-8.3	5.6
Farm products raw material (wholesale trade)	0.6	-4.3	10.4	-0.2	-5.6	13.1	1.2	-3.5	8.8
Warehousing	-0.5	-9.7	18.8	-1.9	-6.0	19.4	1.8	-15.0	17.8
Farm-related wholesale and retail trade	7.2	2.9	1.8	7.4	3.6	1.5	6.4	-0.5	3.7
Indirect agribusiness	6.3	-2.7	-2.1	6.3	-2.0	-0.9	6.2	-5.6	-8.3
Total farm and farm-related employment	3.9	0.2	1.5	5.4	1.3	1.4	1.3	-2.4	1.7
Nonagricultural employment	5.2	0.8	-3.3	5.1	1.3	-2.8	3.8	-0.5	-4.9
Total employment	4.9	0.7	-2.4	5.1	1.3	-2.1	2.9	-1.1	-2.8

-- = None or negligible.

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